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INTRODUCTION TO SPECULATIVE LOGIC AND PHILOSOPHY.

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CHAPTER V.

§ 1. *Idea in itself and without itself.*

If idea be the essence and the ultimate reason of things, it necessarily follows that it exists in itself and without itself, or, to use another expression, that it exists in thought and out of thought in Nature, and that it does not exist out of itself and in Nature as it exists in itself and in thought. However startling and irrational this proposition may appear at first sight, it will be perceived, when properly considered, that it must be admitted under any supposition, and from whatever point of view we look upon the subject; nay, that we admit it in many instances, only we admit it, in another form, unconsciously and in a desultory and unscientific manner.

The popular sayings that God is the principle of the World, but that he is not in the World; or that idea and its realization, theory and practice, though connected by a close relation, are distinct and cannot become identical; or that the artist perceives idea, but is unable to embody it in all its beauty and perfection; or that Nature and the visible world are but images and symbols of the invisible,—all these and similar propositions are but various expressions of one

and the same principle, namely, that idea is in itself and without itself in the things of which it is the idea, and that it is not in the things as it is in itself. For when we say that God is the principle of the World, but that he is not in the World, we do not mean to say that there is no *consubstantial* connection between God and the World—there is no proposition more untenable and more absurd than this—but that God, who is the principle of the World, exists in a two-fold manner, namely, in himself and without himself, and that he does not exist in the latter as he exists in the former manner. So likewise in saying that the visible world—the world of phenomena—is only the image of the invisible one, we mean that the latter manifests itself but imperfectly through the former, as sound or any outward sign is unable to represent thought in the clearness and fulness of its meaning, though both sound and thought are linked together in the same subject.

What language is to ideas in general, the external world is to Art. Languages as well as works of Art are symbols, imperfect and obscure adumbrations of ideas. They embody ideas, or, to speak more correctly, ideas embody themselves in them; but as the body both manifests and veils the soul, so ideas, by giving themselves an external existence, must need create Nature, or bring themselves in contact with Nature, and consequently dim the purity and transparency of thought, and conceal the unity, the infiniteness and immutability of this essence. For Nature is time, space, and motion; it is the field of perpetual change, of ever-recurring renovation and destruction; where everything is not only dissimilar to another but to itself at each moment of its existence; where beings and forces form mere aggregates, and are merely juxta-posited, without being internally connected, and conscious either of themselves or of the relation in which they stand to each other.

Therefore the Being that either creates Nature, or uses Nature as a means, or stands in any relation to Nature, must needs partake of it, and adapt itself to its laws and constitution. Thus what in itself is one and undivided must become plural and divided, what is immutable and eternal must become mutable and temporal, and what is beneficial and

harmonious must be made to appear hurtful and inharmonious. This is the relation in which ideas and Nature stand to each other, a relation involving a contradiction, an affirmation, and a negation.

It may be said of God that he affirms Nature inasmuch as he is the principle of it, and that he denies Nature inasmuch as Nature cannot contain him. And so it is with thought and ideas — God, Thought, and Idea, being identical in the highest sense of the words. Consequently we stand, like God, to Nature in a similar relation. For inasmuch as we are thinking beings, and bear an ideal world within us, Nature cannot contain us; so that we also affirm Nature—we live in it, we adapt it to our wants and purposes, and associate it with all our works and enterprises, and all our enjoyments and sufferings; and then we destroy it as a useless and unmeaning instrument, and as a hindrance to the furtherance of other purposes and the attainment of other enjoyments. The inward and inextinguishable yearning after something better, absolute perfection; the feeling of discontent and weariness which is inseparable from all human things, however accomplished they may be; progress, reforms, revolution—history, in one word—is the work of the ideal world that is in thought, and which the external world is unable to express and realize. The working of thought is unceasing; nay, it is the very life and essence of History; and the appearing and disappearing of individuals, nations, and civilization, are but its actual results—the only results visible to the external eye, and to the inattentive mind to which the latent causes are hidden—by whose incessant and combined action events are brought to maturity.

This alternate movement of life and death, of renovation and destruction, of adaptation of Nature to the requirements of Spirit, and of annihilation of Nature, is the work of ideas and thought, which, like the double-edged weapon of the Greek hero, inflicts the wound and heals it; showing thereby their infinite and irresistible power, before which Nature is something like nought — an instrument they create and annihilate at will and according to their purposes. This power may be seen at work incessantly, and in every part of time and space; but never is it more visible, or surrounded

with more tremendous attributes, than in those great historical changes and revolutions when the times are full for humanity to advance another step in the consciousness of itself and in the path of truth. Then we see the world thrown into, as it were, a state of disruption and confusion. We see beauty becoming ugliness, wisdom folly, truth untruth, patriotism and heroism sterile and powerless virtues, and institutions upon which had been bestowed the thought and labor of centuries and generations, and which in former times had proved a source of strength, of glory and triumph, now turning into a source of weakness, defeat, and humiliation.

The middle ages are looked upon as times of barbarism. And it must be owned that when compared with the Greek and Roman civilizations, with their extraordinary men and achievements, and the imperishable monuments raised by them—monuments from which we derive, even now, the highest instruction and the purest enjoyment, nay, which will live as long as there will be a human mind to admire and revere them;—when compared, I say, with these high civilizations, the middle ages are rightly called times of darkness and barbarism. For if we consider them separately and apart from the general movement of history,—if we consider their institutions, their languages, and the moral, social and intellectual state of their societies, even taking Christianity into account, we are perplexed to see what humanity had gained by the overthrow of the ancient world. And yet the middle ages prevailed against ancient civilization, and they prevailed because the new spirit of the world was with them. As life begets death and death life, as the organic being must fall into a state of inorganism and corruption to bring forth a new organic being, so ancient civilizations — their forms, their creeds and institutions — what in other times they held as true and holy, what had inspired their bards with immortal strains and had been the main-spring of great actions—all must be broken and dissolved.

The middle ages are the new-born infant whose birth is death to its parents; they are the plant and the flower that break to a new life through the rotten seed and feed upon rotten matter. The darkness that surrounds them is the

darkness that precedes the new morning light, and the state of violence, instability and confusion into which societies were thrown at that period, is the chaotic state that must precede all new birth and formation; it was the crucible in which were melted the elements of the old world, to be mixed afresh and purified by the breath of the new Spirit. And so it is, under various forms and in various degrees, everywhere, in all points of time and space, and at all periods of history. Everywhere there is life and everywhere there is death, everywhere there is darkness and everywhere there is light springing out of it. What is the darkness and light of to-day is the light and darkness of the morrow, and what is or is not to-day shall not or shall be to-morrow. This perpetual change in Nature, these evolutions and involutions of forms and beings, this passage from being into nought and from nought into being, visibly demonstrates both that idea—the Absolute and the Eternal—is in Nature and that it is not in it. For idea alone can work the change either in destroying or in producing the being, and it can only work it from its being itself impervious to all change, diminution, and destruction. Whence it follows also that the Absolute exists and can be apprehended but imperfectly in Nature, and that it is as pure thought only that it exists, and through pure thought that it can be apprehended in the reality and fulness of its essence.

In the above remarks, if properly applied, will be found the elucidation of objections directed against Idealism from a sensualistic point of view. It is said, on the one hand, that ideas do not possess any *positive*, but a merely *negative*, value and existence, and, on the other, that they cannot be reconciled with the infinite variety of beings, institutions, creeds, and opinions. How is it, it is objected, that if there be one and the same idea for one and the same class of beings, ideas vary with individuals, times, and external conditions; that Europeans and Chinese, for instance, form different notions of beauty; or that different peoples take different views of right, of justice, and religion; nay, that individuals belonging to the same community and nursed in the same doctrines hold conflicting opinions upon one and the same subject?

With regard to the first objection, it may be easily perceived that it is founded on the assumption that the only *positive* (which here means *real*) beings are those that fall under the senses, which is the sensualistic assumption, and, consequently, that ideas possess no reality—the meaning we must attach here to the word *negative*. In fact, if we start from the principle that nothing save that which falls under the senses posseses reality, then idea would possess no *positive* existence. But to assume that ideas do not possess any positive and objective reality because we cannot picture them to our imagination, or embody them in any external form, is to assume that the only real beings, forces, or principles, are those that can be apprehended through the senses. For the argument does not only apply to ideas, but to all principles in general, as there is no principle, whatever be its nature, its object, and the notion we form of it, that can be brought under the senses and imagination; indeed, it is contradictory to the very nature of principle to be sensibly representable. For as soon as a principle falls within the limits of experience it is no longer a principle. And we may observe, by the way, that it is on this erroneous view and assumption that not only the sensualistic, but the Kantian doctrine also, is founded; the real and main purport of Kant's theory being that we are not rationally allowed to affirm metaphysical and transcendental realities, because we do not meet in the field of experience with any being or phenomenon which we can bring these transcendental realities to coincide with. Thus, for instance, according to Kant's argument, we cannot demonstrate the existence of God, or of the *Perfect Being*, because the *objective reality* of the Perfect Being is not contained in the *notion* of the Perfect Being; which means that the notion or the Idea of the Perfect Being possesses no objective or actual reality. As the precedent inquiries show the untenableness of this and similar positions, I will not enter again into a lengthened discussion of the question, but I will confine myself to a few remarks.

The sensualistic as well as the Kantian doctrine starts, as we have just observed, from the assumption that the only *realities* are those that come within the reach of the senses

and imagination; from which the inference is drawn, that, as ideas can be neither *felt* nor *imagined*, ideas possess no reality. But then the question arises as to what ideas may be; and how it is, if ideas are equal to nought, that the external world cannot be apprehended save through ideas, and that there is no being which our mind, or any mind we may possibly conceive, can apprehend without ideas. Must we say that the phenomenal world which is apprehended through ideas is the highest, nay, the only reality, whilst ideas by the aid of which the latter is known would be destitute of all reality? But it would seem that it is the contrary we ought to admit. For to ideas, through which not only a single individual being, but all similar beings are, and can possibly be, thought and known, must need appertain a higher nature than these beings themselves. Besides, it will be acknowledged, under any supposition, that phenomena are manifestations and effects of principles, and that these principles must be possessed of a higher reality than their effects. Now, principles, whatever they may be — let them be called God, or the Absolute, or the Infinite — cannot be made the object of sensible perception any better than ideas, as we have demonstrated. In fact, the highest reality is the invisible reality, which is the highest for the very reason that it does not fall under the senses and the conditions to which all external reality is necessarily submitted. Therefore, to hold that ideas possess no reality because this reality is not proved by experience, is to hold that the Infinite does not exist because it does not exist like the Finite, or because the reality of the former is not the reality of the latter.

As to the other objection, drawn from the variety of opinions, customs, and institutions, as well as the products of Nature, it will be observed that the difference does not affect idea, but its external manifestation. Viewed in itself and in its essential existence, idea is one and the same, and is not liable to either alteration or division. It is only as Idea in Nature that it assumes various forms, and that its unity appears as broken and as a plurality. And yet even variety reveals the unity and the infiniteness of ideas. For the numberless individual forms and the ever-changing scene of external objects show the inexhaustible activity of this

principle, whilst the invariableness and community of their essential character show its unity. It is one and the same thought that stamps Nature with different marks, it is one and the same mind that manifests itself in the variety of its works. The difference between Chinese and European, or between ancient and modern Art, does not reach this principle. For were they sprung from different sources there would be no relation between them, nor could they be compared; nay, one of them could not even come within the same denomination. And so it is with laws, institutions, and languages. This difference begins with their external manifestation — the temporary, limited, and local forms in which they are necessarily embodied. As one and the same sun produces different effects according to different latitudes and to the different elements with which it is combined—as one and the same object multiplies with the points from which it is viewed and the eyes that view it—or as one and the same voice awakens different feelings in different ears and different hearts,—so likewise, and in a still much higher sense, idea, in its contact with Nature, splits itself into infinite forms and numberless beings.*

The most striking illustration of this self-diversifying power of ideas is supplied by language. Of all external manifestations of ideas, language is one of the most perfect. Its affinity to thought is so intimate, that some have been led not only to confound them, but to see in language the origin of thought.† In fact, language is the most immediate offspring of the ideal world; it is the echo which externally reverberates the internal sound and breath of Spirit. In other stages of its existence Nature is dumb and silent, and where it possesses a voice it is a voice whose meaning is obscure, undefined, and destitute of all connection and unity. Thus it

* "*Et erat Lux vera quæ illuminat omnem hominem venientem in hunc mundum.*" Now this light which embraces man, though one and the same light, does not illumine him in the same manner, but adapts itself to space and time and to local requirements. Even within the pale of Christianity, this inward and eternal light is externally broken up into fragments, sects, and denominations, which represent as many aspects of one and the same thing.

† Hence the superficial theories of Condillac and M. de Bonald, summed up in the well-known propositions, "*Penser c'est parler*" (to think is to speak), and "*La science est un langage bien-fait*" (Science is a well-made language).

may be truthfully said that we are the organs of Nature, and that Nature speaks through us a language superior to its own essence, attaining thereby, even externally, a perfection which it does not possess in itself. The roaring of thunder has no meaning for the thunder, or for Nature in general, so long as it has not reached the region of Spirit, and has been marked with an external sign conveying the internal signification of the phenomenon. Likewise the roaring of thunder, the whistling of wind, the flashing of lightning, &c., are scattered and isolated sounds that find their connection and unity in the voice of Spirit. Even the animal — the brute creation—though possessing a soul and a voice to give utterance to its internal wants, is refused a language; and this, because the animal, though the product of the same principle as man, does not bear it within itself, and consequently does not perceive it or feel a desire for it. Being thus debarred from the contemplation of the ideal world, the animal is invariably kept within the bounds of Nature and of a limited number of physical wants, for the manifestation of which a limited number of inarticulate sounds are required; and as Nature is by its very constitution the field of uniformity, of unchanging, ever-recurring and self-repeating wants, the animal's wants as well as the mode of expressing them must be invariable. But the being that possesses thought—and the thought of the Eternal and the Absolute, and of the Unity of the Universe—must also possess a means adequate to the outward expression of this internal world. And this is language. The highest and final object of language is not to associate men; for language is like ideas, the double-edged weapon which associates and dissociates men, engenders both peace and war, and creates and overthrows societies; but to give utterance to the internal world of thought, or to express ideas, and, by expressing ideas, to unite and disunite men, to found and overthrow societies, according to the requirements of truth. Now, as language is the most immediate and direct product of thought, it must imitate thought; or if it must imitate Nature, it is Nature as it reflects itself in thought. Indeed thought transfers at will, and according to its own perceptions and purposes, the internal world into the external and the external into the internal; for in this

double sense language is metaphorical. But the creative power of thought in language is mainly shown by this, that words cannot represent things except through thought; that they possess no other meaning, or being, but that which thought imparts to them; that it is from thought they derive their beauty, their power, and duration; and that as soon as thought retires from them they become a dead letter, a soulless body.* Thus the same sounds which in former times had delighted the ear, had stirred the soul, and been the incentive to mighty deeds, lie now unmeaning and powerless; or, if they still retain some of their former substance, it is because they enshrined thought, or because we ourselves infuse into them a breath of the living Spirit. Here we can see the common source of all languages, as well as the cause of their diversity.

In fact, if thought is the soul of the word, the internal *verbum* by which the external is created, thought is the principle of all languages, and it is because languages all flow from this same source that thought is able to understand them all. Therefore, the unity of languages does not lie in any primordial language, but in the unity of thought and ideas expressed by words. Whatever explanation may be contrived of the origin of languages, it is towards this common centre that all suppositions and inquiries must ultimately converge. For, either man has taught himself, or he has been taught to speak. In the first hypothesis, language is evidently the product of man's thought and ideas. If, on the contrary, language was communicated to him, in whatever manner the communication was made it must be admitted that the being that made the communication thought what he communicated, and that the communication was the

* The less language is *representative*, the more correct, faithful, and appropriate to the free and full manifestation of thought. Even in poetry, figures and images must be made subservient to ideas. They must not be the *literal*, but the *ideal*, transfer of a natural phenomenon to the thing we want to describe; so much so, that, if a literal construction were put upon the words, the intention of the poet would be perverted or become unintelligible. If, for instance, we were to take literally the words βοῶπις, κύνα, ἀργυφόπους, &c., Greek goddesses, nymphs, and heroes, would become unseemly or ludicrous objects. The letter of the word must, then, be *idealized*, i.e. must be diverted from its natural sense to that of the ideas the poet intends to express through it.

product of thought and in conformity with it; and, on the other hand, that the being which received the communication possessed thought, and thought consubstantial with that of the being by which the communication was transmitted, and that he spoke also in consequence of that thought and in conformity with it. In other words, he who teaches and he who is taught must possess a common nature; and the higher the teaching, the more intimate and inseparable the connection must be; so that, if I teach either to *speak* or to *think*, my teaching would be of no avail; in fact, it would be no teaching unless the being I teach possesses the very same *faculty* of thinking and speaking I use in teaching him. But if he possess this faculty, my thought and his thought, my and his vocal organs, flow from one and the same principle, from one and the same essence. This is the *idea* of language—an idea in which the internal and the external, thought within and thought without itself, are intimately and immediately connected. For to speak is neither thought without voice, nor voice without thought, but thought and voice penetrating each other and forming an indivisible whole. As the body is the external form and instrument of the soul, so the word is the external form and instrument of thought. Thus viewed, language appears as the highest form of external existence, as the highest degree to which Nature can attain. The other powers and functions of the body are limited in time and space, and mainly intended for the satisfaction of physical appetites or inferior wants of the soul; whilst language, being in immediate intercourse with thought and issuing directly from it, strives to become identical with it; and as thought is absolute, eternal, and immortal, so there is in language an inward effort, a longing after perfection, eternity, and immortality. Yet it is a longing which shall never reach its object. For the word being a sound and an image of thought, and not thought itself, i.e. falling within the sphere of Nature, must, like all images, be limited, perishable, and deceptive. Hence the dispersion of thought in various languages. Hence the necessary transformation and dissolution of languages. Hence also the errors of which language is the source.

In fact, as there are two elements involved in *the word*, the internal and the external, the idea and the sound; and as

the sound, which is imperfect and finite, cannot render idea, which is infinite, in the unity and fulness of its essence,—it follows that thought creates another sound, other vocal forms and combinations, to express this very same idea; which forms and combinations, being themselves necessarily limited, prove inadequate for the expression of thought, and call, in their turn, for other forms, which fall under the same conditions as the former, and so forth. Now, if we contrast the various languages, we shall see that, for the very reason that they are limited and external embodiments of thought, each of them must represent a different aspect of one and the same thought, different relations and combinations of one and the same idea; so that what one expresses, the others will be unable to express, or to express in the same manner, with the same degree of clearness, accuracy, and perfection—a fact we experience in translating. For not only is a translation always dissimilar or inferior to the original, although both the original and the translation spring from one and the same thought, but it frequently happens that both the original and the translation are utterly inadequate to the rendering of thought; so that here we can discern, and feel, as it were, thought in itself in the unity and perfection of its existence, and thought without itself in the limited form in which it is externally clothed. This finiteness of languages, which, by stamping limited forms with ideas and by concentrating thought in a limited number of sounds, is, on the one hand, the source of their power and beauty, and, on the other, the source of their transformation and decay. For, in consequence of their inability to embrace and express the infiniteness of thought, they must either modify and transform themselves, or, if they do not possess the necessary vitality and aptitude to embody the new developments and wants of Spirit, they must disappear and make room for other and more appropriate organs of truth.* For this same reason

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* Ut silvæ foliis pronos mutantur in annos,
Prima cadunt: ita verborum vetus interit ætas;
. . . . . mortalia facta peribunt,
Nedum sermonum stet honos et gratia vivax.—*Hor. Ars Poet.*

As a general criterion, it may be laid down that as soon as a language ceases to be spoken it ceases to be a *living* being—the representative of the living Spirit. Yet a language, although inwardly dead, may continue to be spoken by keeping

language is a source of error and delusion, and may become a hindrance to the progress of science and truth. Language is fallacious, not only when *false* representations are embodied in words, but even when words — single or combined — express right notions and real objects. For from the fact of the words being limited and disconnected symbols of things, they represent a part of a thing instead of the whole thing,

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up a kind of factitious and galvanic life, within which the soul of the present and living spirit of the world does not beat. The Eastern languages, the Chinese, and the Hindoostanee, may, in this sense, be considered as dead, though still spoken by millions and hundreds of millions of human beings. Indeed, in the eyes of History, they are more dead to Science and civilization than Latin and Greek, which we inhale, as it were, from the cradle with our native tongue. They are to Greek and Latin what Oriental history — i.e. Philosophy, Science, Art, Law — is to Greek and Roman history in general. The study of Oriental languages possesses, like any other study, its usefulness and importance, and may also be required for political or commercial purposes. But it could never be a substitute for Latin and Greek, and it would be irrational and anti-historical to make Chinese and Hindoostanee the basis of classical education in the room of Greek and Latin.

In considering the history and present state of the Eastern nations, it must be borne in mind, that, though still in existence, they in reality belong to the past, to the ancient world, where they were far outshone by the two great luminaries of that period. Since that time, whilst the European and Occidental nations, inheriting the spirit of their forefathers, have been fighting the battle of civilization, promoting the common interests, and raising the common level of mankind, the Oriental nations have stood immovable, and kept aloof from the movement of history. So they are, in substance, what they were two thousand years since, and as, two thousand years since, we have seen a handful of Europeans conquer them and hold them in subjection. Therefore, their language and institutions possess only an interest for the antiquarian and the historian.

With regard to the Greek and Roman languages, it is a remarkable fact that they continued to be written and spoken long after the Greek and Roman nationalities had ceased to exist. This is owing to Christianity having adopted the two languages as organs of its doctrines and teaching. The unsettled state of the world in the middle ages, the absence of any newly constituted nationality and language, coupled with the high degree of perfection to which the Greek and Latin languages had been brought, made it necessary for the Church to adopt them. And as, on the other hand, the Church, especially the Latin, was at that time the representative of the new Spirit — a spirit embodied in a Code upon which the nationalities then in a state of formation were to be founded — and, moreover, as Science and Law were so intertwined with Theology as to be inseparable from it — the very fact of the Church having adopted them must have prolonged their existence. For the Church constituted, in some manner, their centre and nationality. Then came the *Renaissance*, which infused again into them some of their native vigor. However, as the new nationalities, and the languages sprung up with them, were developing themselves, assuming a fixed and individual shape, and attaining maturity, Greek and Latin became more and

or as divided and plural what is united and one*; so that the mind, which is guided by the literal and conventional signification of the word, considers as a whole what is only a part,† or as divided what is united.‡

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more dead languages. The Reformation, the popular use of the Bible, Science asserting its independence of the Church and using the vulgar tongue, the daily press, the necessity of a more rapid intercourse between men and nations, new discoveries and wants, physical and mental habits requiring new signs and forms of expression,—all these causes must have made and are making ancient languages more and more foreign to our mental and social requirements, however beautiful—nay, even superior, in some respects, to those by which they have been superseded—ancient languages may be.

* Or *vice versa*.

† For instance, the expressions, "My hand presses upon the table," "That body adheres to that other body," "The Sun attracts the Earth," when taken literally and according to the usual representation of the meaning involved in them, convey to the mind the notion that by representing to ourselves the hand *pressing* upon the table, or body A *adhering* to body B, or the Sun *attracting* the Earth, we conceive and embrace the whole phenomenon or law, whilst we perceive only a part of it. For in the phenomena of pressure, adhesion, and attraction, not only the hand presses but is pressed upon, not only A adheres to B but is adhered to by B, not only the Sun attracts but is attracted also by the Earth; so that the right perception of the whole object is not in the perception of either term considered singly and apart from the other, but in the perception of both considered singly as well as in their mutual connection—the two conditions of *pressure*, *adherence*, &c., and without which such phenomena could not take place. "The whole is made up of parts" is another expression producing a similar error, as it makes one believe that in possessing the parts one possesses the whole, whilst, in reality, the whole and the parts are different, though inseparable. Similar expressions can be easily found.

‡ The natural tendency of language is to separate what is united, thereby preventing the mind from perceiving the internal unity of things. Words, being images and external representations of thought, resolve themselves into sensations; and as the natural tendency of sensation is to divide and to circumscribe, in time and space, both the subject that receives the impression and the object that produces it, so it is with words. Thus, unless the mind—disregarding the word, so to speak, and going beyond it—directs its attention towards the objective and invisible connection of things, the Universe will appear as made up of fragments, of units or atoms. For instance, the words *luminous*, *opaque*, *Sun*, *Earth*, *motion*, *rest*, *cause*, *effect*, *general*, *individual*, *will*, *imagination*, *reason*, taken singly, or even united in propositions, such as "The Sun is luminous," "The Earth is opaque," "The cause is not the effect," "The effect is not the cause," "The general is not the individual," &c., offer to the mind a series of merely opposite or disconnected beings. It has been already observed by Condillac that language is an *analytical process—un moyen d'analyse*. In reality, if we consider the word—the external sign of thought—in itself, language is neither an analytical nor a synthetical process, as it is thought that divides and unites. But, from the very fact that the word is a limited and particular repre-

But what chiefly brings about the decline and dissolution of languages is that a time arrives when not only they are unable to accomplish the object for which they are instituted, namely, to express truth and to spread and promote science, but they become the most stubborn opponents of truth and science. The language of a nation is part and parcel of its being. The long usage and elaboration of a language bring this result, that, whilst they evolve all their native vitality and beauty, and create a more perfect instrument for mental operations, they gradually petrify the mind by encompassing it within fixed sounds and forms, so that the words and thought become identified, and local, limited and imperfect truth becomes the universal and absolute truth. The god of the Romans was not the invisible and eternal God, but the *Jupiter optimus maximus*, seated in all his majesty and glory on the Capitolium, surrounded with the *Dii majores* and all the attributes and formulæ which constituted the Roman religion. So likewise morality, justice, glory, eloquence, were for the Roman inseparable from the words and sounds that expressed them and the national meaning affixed to them, nor would any other sound move his heart or captivate his ear. Consequently, when by the inward and incessant working of thought a new Spirit breathes upon the world, and new wants and aspirations issue forth from the depths of the mind, the old sounds and formulæ in which are embodied the institutions, the wisdom and life of a nation stand up in formidable array to oppose them as false, pernicious, and impious. And it may happen that the higher the civilization of a people, the more obstinate the opposition. For glory and power beget pride and stubbornness, harden the heart, and blind the mind, and lead gradually a nation to the belief that she is the representative of the absolute truth. In this delusion mainly lies the cause of her decline and dissolution. For in this contest between the limited and mortal spirit of a nation and the spirit of the world—which is the Spirit and Providence of God—the for-

sentation of ideas, it has a tendency towards distinguishing and analyzing; so that the mind, from inadvertency or from an inadequate philosophical training, misled by the word, is apt to overlook the connection of things.

mer must either follow or succumb. It must either become the apostle of the new doctrine and the organ of the new truth, or, if it be unable to utter the new sounds and spell the new words, it must withdraw from the contest and yield up the arena to a more youthful, more vigorous, and God-inspired race.

Since language, which is the most direct and faithful external manifestation of thought, is unable to render it in all the depth and fulness of its meaning, it follows that thought can only be apprehended by thought and idea by idea; and that words, images, representations, whatever they may be, are but imperfect and deceptive adumbrations of truth. If, therefore, in listening to words, the mind, instead of fixing its perceptive power upon their objective and internal value, let itself be captivated by the sound and by its outward form and beauty, it will mistake the shadow for the reality, the image for the thing, and the perishable for the eternal being. For the Absolute is unutterable, and there is no language that can adequately express it save the internal and silent language of thought, a language which is the reverse of the former, and that can only be spoken by him who is able to forget his native and mortal and learn the universal and immortal tongue through the contemplation of ideas as perceived in the reality of their nature and existence, i.e. in their unity and as a system. For this is speculation, or speculative thought, in the strict Hegelian sense; as speculative thought is not the thought which apprehends abstract ideas, ideas in their isolated, partial, and fragmentary existence, but thought that apprehends ideas as they are in the absolute idea, which is absolute for the very reason that it is a systematic unity without which nothing can either rationally be thought or exist.

KANT'S CRITICISM OF PURE REASON.

AN INTERPRETATION AND CRITICISM,

By Simon S. Laurie.

TRANSCENDENTAL DOCTRINE OF ELEMENTS.

FIRST PART.

TRANSCENDENTAL ÆSTHETIC.

[The object of transcendental æsthetic is to prove the possibility of *à priori* synthetic judgments in the region of sensible perception. That is to say, in the mere act of sensibly perceiving objects I affirm with respect to each a certain predicate which I do not obtain from the sensible object or presentat itself, and which is therefore synthetic or ampliative, and which also is necessary and therefore *à priori*. I say THEREFORE *à priori*, because, although Kant slips into the use of *à priori* as the contrary of *à posteriori*, the primary ground of his notion of *à priori* is the feeling (so to call it) of "Necessity" in a judgment. We must in estimating his argument, however, give him the credit of both conceptions as contained in the notion *à priori*—the conception of Necessity and the conception of "not *à posteriori*," that is to say, "not-given-in-Sense."

Kant's motive in this investigation (the word "motive" is used of course in an intellectual and not a moral signification) is to explain the necessary and synthetic character of mathematical judgments, which he assumes he has already shown to be *à priori* synthetic. I think he failed to do this, and consequently the motive disappears so far as I, the student, am concerned. The necessity or (apriority) has been explained as analytic, and it is of no importance to me that the predicates Space and Time should be found to be given not in sense but as *à priori* (that is, here, *native* and necessary) Forms of sensible Intuition or Perception.]

TRANSCENDENTAL DOCTRINE OF ELEMENTS.

1. *Transcendental Æsthetic.*

Knowledge is immediately related to objects through Perception (or Intuition), *Anschauung*.

But the object must be given or presented to us, and this it can be only by affecting our mind (*Gemüth*) in a certain way.

The capacity for so obtaining percepts (*Vorstellungen*) or presentats is called Sensibility (*Sinnlichkeit*).

Through Sensibility therefore it is that percepts (*Anschauungen*) are delivered to us.

[Here *Anschauungen* seems to mean substantially the same as *Vorstellungen*.]

These *Anschauungen* are thought by the *Verstand*, which thus gives us *Begriffe* (Concepts or Notions). All *Begriffe* ultimately rest on *Anschauungen* (percepts).

The action or effect of the object on the Sensibility we call Sensation (*Empfindung*). The perception which reaches the Sensibility through Sensation is called empirical, and the object of this Sensation is called Phenomenon (*Erscheinung*).

[It is a pity thus to limit the "empirical" to outer sensible perception.

The above passage, though introducing the Kritik of Sense in a free and almost easy-going way, is very important. The terms used demand close attention. *Anschauung* is for the most part more general in its use than *Vorstellung;* when applied to a particular object, however, these terms are each synonymous with perception and percept. But, again, *Vorstellung* has a more limited meaning when strictly used, inasmuch as it properly signifies only *Sensible* percept—actual or reproduced in memory. In truth, however, I PERCEIVE an operation of the understanding as well as a fact of Sense.]

The matter of the Phenomenon is that which corresponds to the Sensation; while by Form of the Phenomenon is meant that which reduces to order the manifold in the phenomenon. That which reduces the manifold of the Phenomenon in sensation to order, and gives it a certain form, cannot be itself again Sensation; and is therefore previously existent *à priori* in the mind as a Form.

Those percepts are pure in which there is no element of Sensation. The *Form* of sensible perception is to be found (as has been already said) in the mind *à priori* (we see this *before* we see the body, as Kant elsewhere says); and this Pure Form may also be denominated Pure Perception (*Anschauung*). E.g. take from a body all that the Understanding puts into it—Substance, Power, Divisibility—and also all

that is the product of Sensation—Impenetrability, Hardness, Color, &c.—something still remains, namely, Extension and Figure. These, then, belong to Pure Perception; they are the *à priori* product of the mind, and constitute the mere Form of Sensibility apart from any actual object of sensibility or Sensation.

[The above is the interpretation rather than even the substance of Kant; but it is true to the substance. It is only by putting the points in greater relief than they are put by Kant that we can see the importance, or at least the precise significance, of these passages and their relation to what follows. Note *first:* that Kant truly enough says, that that (power) which gives unity, definite relations, &c., to the multiform phenomenal, cannot be itself a second underlying sensation. But he makes an enormous stride when he says that *therefore* it is an *à priori* Form native to the intelligence. Criticism by starting with such an assumption starts in fact with Dogmatism. It is not a fundamental treatment of the subject. Note *secondly:* that, having occupied this position, it follows that the Form being *à priori* is pure. It is not *à posteriori*: it is given in and with Perception, and is Pure Perception. This conclusion we may, if we choose, accept, but it is not critically ascertained. Note *thirdly:* that it is further affirmed that Sensation or Sensibility does not give us the extension or figure of a phenomenal object, although it gives everything else vulgarly supposed to be given *à posteriori* (except, as we shall afterwards see, *Time*). Consequently, Extension or Space is a Pure Percept furnished by the mind itself as Form of the Sensible. We may readily admit that *if* not given *à posteriori*, it is given *à priori*, and is Pure and so forth: but *thus far* the *à priori* and pure character of this or any percept is a mere hypothesis. We yet look for the demonstration. (Kant is here for the moment using "*à priori*" in its proper signification.)]

The Science of the *à priori* Forms of Sensibility is TRANSCENDENTAL ÆSTHETIC, while that which deals with the principles (Forms) of Pure Thinking is *Transcendental Logic.*

Our first duty, then, is to isolate the Sensibility from the *Verstand* and its *Begriffe*; and then, secondly, to take away from the Sensibility everything given through Sensation, and leave nothing but pure *à priori* Perception, or Forms of Sensibility. We shall find that there are two such *à priori* Forms of Sensibility which give us *à priori* knowledge, viz.,

SPACE AND TIME.

First Section.

OF SPACE.

2. *Metaphysical Exposition of this Begriff.*

[The form *Begriff* is either used loosely here, or it signifies the perception or intuition of Space as held in and by the *Verstand* as a notion, applicable to the individual "many," as opposed to Space as an *à priori* Pure Perception or *Vorstellung*.]

By means of the outer sense objects are presented to us as outside us in Space: the inner sense perceives objects as in Time, under which Form the perception of our inner mental state is alone possible. We cannot see Space inside ourselves any more than we can see time outside.

What, now, are Space and Time? Do these predicates belong to the things *an sich*, or are they, as subjective Forms, applied to things in necessary obedience to the constitution of our mind? To ascertain this let us expound first the *Begriff* of Space.

(1.) Space is not a *Begriff* resting on outer (sensible) experiences. For my sensations cannot be related outside me, that is, to anything in another part of Space than that in which I am; and in like manner objects cannot be perceived as respectively outside one another in various parts of space, except on the presumption that the perception of Space already lies at the bottom of the whole procedure. The perception is therefore not due to the relations of the phenomenal as given in experience, but, on the contrary, outer and phenomenal experience is itself first of all possible through the Percept (*Vorstellung*).

[I cannot see the force of this argument. Suppose Space to be a condition of the existence of things *an sich* or *für sich* external to me; I open my eyes and perceive or feel, *first*, indefinite Space, and, *secondly*, things spaced and placed in indefinite Space — What can be answered to this? "You cannot," Kant would say, "perceive relations of Space without first having the intuition or percept of Space." True in a certain sense; but I get my sensation of indefinite Space from without in the first instance, and then gradually mark off spaced bodies one from another in Space, that is to say, I *place* them. Is not this a valid position to take up? Granted

that I cannot "*place*" bodies without a prior perception of Space, it does not follow that that percept must be a "Form" of my Sensibility. It may be given from without in Sensation after all.]

(2.) Space is a necessary *à priori* percept (*Vorstellung*), the ground of all outer perception: and this is shown by the fact that you cannot image (*eine Vorstellung machen*) the absence of Space, although all *objects* in Space may be extinguished. Phenomena are possible to Sensibility only under this condition of Space; but they do not yield Space to our cognition as a determination (of themselves).

[To say that I cannot *eine Vorstellung machen* of the non-existence of Space, is simply to say that I cannot imagine the outer save as spaced. This is true: but may I not say that it is true, because to think the outer is to think Space, for *all outer* is Space? "Outer" and "Space" are identical terms. The condition or Form of the externalized life of Deity is Space; and I in knowing this external, know Space as the universal condition.]

(3.) Space is not a discursive general notion or concept (*Begriff*) drawn from the relations of things, but a pure perception; for you perceive it only as one and uniform Space, and if you speak of "Spaces" you mean only parts of the same one continuous Space (*alleinigen Raumes*): and you think these "Spaces" not as constituent parts of universal Space and prior to it, but as *in it*. Space is essentially one, and the notion of "Spaces" rests on the perception of limitations of Space. From which it follows that an *à priori* perception lies at the root of all notions of Space. *Thus* it is that all fundamental mathematical theorems or propositions (as that two sides of a triangle are greater than the third) can be deduced out of an *à priori* perception with apodictic certainty, and could not be deduced out of *general notions* of a line and triangle.

[That is to say, Space is not an Abstract general resting on particular extended objects, for you can perceive it only as one, uniform, unique, universal Space, and not as made up of parts. On which I remark that, according to an important distinction, which I would suggest here, Space in so far as it is a *Begriff* is not an Abstract concept at all, but an abstract

Percept (universal), and that if Abstract Space *quâ* Space were not uniform, one, unique, it would not be a universal abstract percept at all. Is it not this oneness which is the essential characteristic of an abstract percept *as such?* Take even "hardness" as an Abstract, which is unquestionably based on empirical observation. In so far as it is a "general," it is one, unique, and not to be divided into constituent parts. It may be said that it is not, like Space, a universal condition of all presentation or representation of the outer, but, strictly speaking, only a general resting on a definite number of particular experiences. I might question this; but I content myself with merely here pointing out that, in so far as it is an abstract general, it is *one*. If Space is not only one, but also a *universal* one, this may merely mean that Space is a Form of universal external existence.

As to the mathematical propositions regarding which Kant exhibits so much anxiety that I believe they motived his whole theory of Space and Time, I have already spoken of them. It is by no means apparent that where three lines enclose a space, even the largest side *must* be less than the other two taken together, until the case is presented to perception (as *Vorstellung*); in which event (unless we choose to go through proof on the basis of certain demonstrata and axioms as in Euclid) it can be shown that the two sides must be greater than the third, because, on close inspection, they traverse a greater space: or, again, that since a straight line is the shortest from A to B, and as two lines are not a straight line, their length on the way from A to B by the route C, or any other route, must be longer than that traversed by the straight line.]

(4.) Space is not a *Begriff*, because it is present to consciousness as an endless given quantity. A *Begriff* contains, or may contain, endless Vorstellungen *under* it, but as such it cannot contain endless Vorstellungen *in* it. Space, however, is *so* thought; therefore it is not a Begriff, but a Perception *à priori*.

[There is much force in this argument, but I think it only proves that the presentat Space is not a Begriff or concept. It is not built up out of a series of observations of a certain quality common to all sensible objects. But it is not on this account *therefore* a Perception *à priori*, so far as I can see. It is a Perception of what actually is outside, and in its first presentation to the Sensibility is one, uniform, indefinite, endless.]

3. *Transcendental Exposition of the Begriff of Space.*

[By "Transcendental" is meant the mode of *à priori* object-cognition.]

Transcendental exposition is the explanation of a Begriff as a Principle out of which the possibility of *à priori* cognition can be discovered.

[*Metaphysical* exposition, again, is the exhibition of the Begriff as given *à priori*.]

We have to show (1) that such *à priori* cognitions do flow out of the given Begriff; and (2) that the cognitions are possible only on the presupposition of a given explanation-mode of this Begriff.

Geometry has such *à priori* synthetic propositions of Space. Inasmuch as such propositions cannot be got out of a Begriff—they being synthetic or ampliative and not analytic—they must rest on a perception or intuition (*Anschauung*), and this perception must be *à priori* (prior to all actual perception of objects) pure and not empirical, because otherwise their necessity could not be explained, e.g. "Space can have only three dimensions."

[That mathematical propositions are necessary (and if the term "necessary" be identical with "à priori," *therefore* à priori) is certain. But the necessity, as we have already maintained, is analytical. We can draw a necessary conclusion analytically from Percepts as well as from Concepts, and this is a point of much significance. Therefore, even in geometrical propositions necessity does not carry with it *apriority*.]

How now can an external intuition (*Anschauung*) which precedes objects themselves, and determines the notion [*Begriff*] of them, exist in the mind (*dem Gemüthe bewohnen*)? Manifestly, this external intuition can so exist only in so far as it exists in the Subject as the formal Disposure (adaptation) of the same for being affected by objects, and through that affection acquiring immediate presentats (*Vorstellungen*) of these —that is to say, acquiring intuition (*Anschauung*). Accordingly, it can exist only as the *Form of the outer Sense* (*des aüsseren Sinnes*).

Our explanation, accordingly, alone makes conceivable the possibility of Geometry as a synthetic *à priori* cognition.

[By the "Form of the outer Sense" Kant does not mean a moving force in Sensation itself which *so* and *not otherwise* interprets the outer, but a Form of the Sensibility (*Sinnlichkeit*). Translate the word *Anschauung* above as Perception and not Intuition, and the argument may be reduced to this:

(1) External Perception exists prior to the perception of actual objects.
(2) It can *so* exist only as a disposure of the subject to receive affections from objects and so to get perceptions (actual).
(3) It is therefore a Form of the outer Sense: i.e. of the Sensibility (of the subject) in its outer relations.

On all which I might remark, that, if Space be given as *External*, it could not reach the Subject at all there to be cognized unless there was an innate disposure or fitting capacity of the sensibility to receive it. This of course: and, THUS FAR, all will say there is a Form of Space resident in the Subject-Sensibility. But so to use the term "Form" would be an abuse; for, if it has any distinctive meaning at all, it means that the Subject does not receive the outer at all, but only a subjective interpretation (not even a translation) of it.]

4. *Conclusions from the above Begriffe.*

(*a*) Space is not a property of things in themselves or of their relations. It does not remain if the subjective condition (Form) of Perception is taken away. For neither absolute nor relative determinations of the outer object can be perceived prior to the existence of the things to which they belong.

[But these determinations are *so* perceived, Kant means, or, at least in their principle, perceived; consequently they do not belong to the outer object.]

(*b*) Space is nothing but the Form of all Phenomena of the outer Sense — the subjective condition of Sensibility under which alone outer perception is possible. Just as the capacity of the subject to be affected by objects must precede perception of the objects, so may we easily understand how the Form of all phenomena can be given in the mind *à priori*, prior to all actual perception; and how as a pure perception in which all objects are determined it can contain the principles of the relations of the same prior to all experience.

[This is important as showing beyond doubt that Kant distinguishes between the Disposure or constitutional adap-

tation of the Subject to receive affections of objects and the Form in which it envelopes these phenomena.]

Extension and extended things are, as such, true to man only. If we lay aside the subjective condition of external perception, the sensible percept (Vorstellung) *Space* has no meaning at all.

The permanent Form of our Receptivity (which we name Sensibility) is a necessary condition of *all* relations in which objects appear as outer. If it be abstracted from objects, it is a pure Perception bearing the name *Space.*

Space or Extension is not a condition of things (at least we have no ground for saying so), but only of things being known to us phenomenally [that is, in sense]. "All things are beside one another in Space" is a valid and universal proposition if taken with the limitation—"in so far as these things are objects of our sensible perception."

Observe, then, that the Reality of Space—that is to say, its objective validity—is affirmed with reference to all which can be present to us as external object [this is, of course, no reality at all, except that it is *really* in our consciousness]; but, at the same time, in relation to things in themselves as estimated by Reason and without regard to our Sensibility, Space is Ideal. In other words, Space has an empirical reality, but a transcendental ideality.

[In brief, it is affirmed that in so far as there is Extension, and by consequence all the relations dependent on Extension, such as dimension, figure, locality, that extension and those relations are imposed by the knowing mind on certain *Somewhats* in themselves quite unknown. To which, may I not fairly say, "if a particular stone or tree gets all its sense-properties from *me*, what is the stone or tree save a dependent on my Ego?" Again, how is it that this unknown, undetermined *somewhat* stirs into activity in me the Space-form of the Sensibility, which, though not dead, is yet still not alive until this external "somewhat" teaches it to live and to know its own powers? It is evident that, according to this doctrine, we are involved in greater difficulties than we can escape from by means of it. We are driven by it to posit an infinite number of external *points* of causation which by affecting us effect their own form and their own existence to us. Each of these points of causation is in itself different from every oth-

er, and by virtue of this difference affects our sensibility differently: so that, while stimulating into life the Space-form, it also at the same moment determines both the quantity and the quality of that Space relatively to itself the particular object!

The universe of things must reach a knowing subject somehow, and it does so by means of sense or feeling, which is broken up into various forms (viz. seeing, touching, &c.) If there is to be uniformity and certainty—anything which can be called *Knowledge*—in the knowing of the world, there can be but one general mode of sensibility; that is to say, Sense must be true to itself. The intelligence cannot say of an object at one moment "it is square," and at another "it is round"; now it is "black" and also "white," and so forth. Given a general mode of knowing the external, that mode must have subjective permanence, or subject and object would be involved in an insane whirl of perpetual contradictions. The necessity of this proposition, "An external object must be extended," simply means that I cannot know an external object save through Sense. If, however, this mode is created in and with the subject-knowing, it is as true and necessary for hearing, smelling, &c., as it is for extension. For it merely comes to this, that at one moment the object stirs in me the sensation or mode of sensation which I call Extension, and at another the mode of sensation which I call Sound or Color. Both are equally valid objectively and subjectively, and so must be. To the extent to which they differ, they differ only in their respective universality, but not at all in their objective validity. They are equally unvalid. Kant feels this difficulty as presented by the secondary qualities; and how does he deal with it?]

Besides Space there is no other subjective percept (*Vorstellung*) which can be called "*à priori* objective." Color, Sound, Warmth, &c. &c., belong to the subjective constitution of the Sense-manner (*des Sinnes-art*) just as Space does. But they are in *sensation* (*Empfindung*) and are not perceptions (*Anschauungen*), and give us a cognition of no object in itself—at least, *à priori*. [Why?] Because from none of these *Vorstellungen* [of secondary qualities] can we deduce *à priori* synthetic propositions as we can from the perception, *Space*.

[Here again comes in the mathematical *motif* to which we have already referred as determining all Kant's æsthetic doctrine.]

I point out this lest any one should be induced to illustrate by such examples [i.e. by means of the secondary qualities] the Ideality of Space, since colors, &c., are not to be regarded as part of the constitution of things, but merely as changes effected in our subject, which may be different in different people. The color of a Rose may be different to different people; but the Rose itself is to the *empirical understanding* always a thing in itself.

[This is particularly unsatisfactory. *First*, it is admitted that the so-called Secondary qualities are known through a subjective constitution of the Sense just as Space is, but that they have not even *empirical* validity, but are merely varying and uncertain affections of the Sense. To which the remark offers itself that the senses of Hearing and Color, &c., if normal, and Sound, though more easily disturbed by our own physical conditions than the sense of Space, are not more variable, speaking absolutely, than the sense of Space. There are diseases which utterly distort the sense of Space, just as there are diseases which distort the sense of Color or Smell. "Yes," it may be urged, "but the sense of Space itself is *always* there under every variety and distortion." To which the rejoinder is, "So also is the sense of Smell, &c., except when disease or mal-formation altogether extinguishes it." *Secondly*, it is admitted that Space as well as Color is dependent on a subjective constitution of Sense or Sensibility; but that the latter is a Sensation, the former a Perception, and hence the difference. Kant here, however, manifestly begs the question, or rather proceeds on the assumption that the *apriority* of Space as a perception has been proved: whereas we are entitled—nay, bound—so far as the origin of secondary qualities is concerned, to presume this very point to be still at issue; and to ask, in what respect does our knowledge of Space, in so far as it is dependent on a *process* in *sensation* (for that there is a process is not denied), differ from our knowledge of Color and Sound? They both may be on equal evidence (apart from the argument about necessary propositions) affirmed to stand on the same basis — the basis, viz., of a certain change effected in our nerves. That the one is purer and more direct than the other, does not alter the essential fact.]

THOUGHTS ON THE INTELLECT

IN GENERAL AND IN EVERY RELATION.

Translated from the German of ARTHUR SCHOPENHAUER by CHARLES JOSÉFÉ, M.D.

(Chapter III. of the "Parerga and Paralipomena.")

§ 31. What light is for the external world of bodies, the intellect is for the inner world of consciousness. For this is to the will (therefore also to the organism, which is only the will objectively conceived) about as light is to combustible bodies and oxygen, at whose union it breaks out. And as this is so much the purer the less it mixes itself with the smoke of the burning body, so also the intellect is the purer the more perfectly it is separated from the will from which it arose. In a bolder metaphor, it even could be said: life is, as everybody knows, a process of combustion; the formation of light taking place in it is the intellect.

§ 32. That our recognition, like our eye, only looks without, and not within, so that, if the recognizing tries to direct itself within so as to recognize itself, it looks into a perfect darkness, gets into a perfect vacuity,—this depends upon the following two reasons:

(1.) The subject of cognition is not something self-subsisting, no thing in itself; it has no independent, original, substantial existence; but it is a mere apparition, something secondary, an accidence at first conditioned by the organism which is the apparition of the will; it is, in short, nothing else than the focus in which all powers of the brain converge. Now, how should this subject of cognition recognize itself, as it in itself is nothing? It directs itself within; then, of course, it recognizes the will, which is the basis of its essence: but this is, after all, for the recognizing subject no proper self-cognition, but cognition of something else different from it, but which now, already as something recognized directly, is only phenomenon, but such a one as has time only for its form—not, like the things of the external world, space besides. But, aside from this, the subject also only recognizes the will, like external things, in its utterance, that is, in the single acts of will and other affections, which are comprehended under the

name of wishes, affections, passions, and feelings: consequently it recognizes it always as phenomenon, although not under the restriction of space, like external things. But, for the above-mentioned reason, the recognizing subject cannot recognize itself simply because there is nothing to be recognized in it except this, that it is the recognizing, and just for that reason never that which is recognized. It is a phenomenon which has no other expression but to recognize; consequently no other can be recognized in it.

(2.) The will in us is of course a thing in itself, existing for itself, something primary, self-subsisting, that whose manifestation represents itself as organism in the spatially intuiting apprehension of the brain. But still it is not capable of a self-cognition, because it is in and for itself only something that wills, but does not recognize; for the will as such does not recognize anything at all, consequently not itself. The recognizing is a secondary and mediated function which does not belong to it, the primary in its own nature.

§ 33. The most simple, unprejudiced self-observation, together with anatomical researches, leads to the conclusion that the intellect, as well as its objectivation, the brain, together with the apparatus of senses attached to it, is nothing but a highly increased susceptibility for influences from without, but that it does not constitute our original and real inner nature; thus, that the intellect within us is not what in the plant is the impelling power, or in the stone gravity, or chemical forces: only the will shows itself as this. But the intellect within us is that which in the plant is mere susceptibility to external influences, to physical and chemical influences, and whatever else may increase or hinder their growing and thriving; only that within us this susceptibility is so very highly increased, that, by virtue of it, the whole objective world—the world as conception—presents itself, consequently takes thus its origin as object. To make this clear, one may imagine the world to be without animal beings. Thus it is without any perception, consequently objectively does not exist at all; nevertheless we take it to exist thus. Now, let us imagine a number of plants sprung up from the soil closely side by side. Many things will influence them, as light, air, the contact of one

plant with another, moisture, cold, warmth, electric tension, etc. Now let us increase, in thought, the susceptibility of these plants to such influences more and more: then at last this will become sensation, accompanied by the ability to refer it to its causes, and thus results perception: directly there is the world presenting itself in space, time, and causality, but it remains none the less a mere result of the external influences upon the susceptibility of plants. This allegorical contemplation is very well adapted to make intelligible the mere phenomenal existence of the external world. For who would think after this of maintaining that the circumstances which have their existence in such a contemplation, arising from mere relations between external influences and living susceptibility,—who would think that they represent the truly objective inner and original nature of all those potencies of Nature which, as is admitted, influence all the plants, that is, the world of things, in themselves? We therefore can by this picture make it intelligible to us, why the human intellect has such narrow limits, as Kant points out in the Critique of Pure Reason.

But the thing in itself, on the contrary, is the will alone; consequently it is the creator and bearer of all properties of the phenomenon. Without hesitation it is charged with the moral; but also the cognition and its power, that is, the intellect, belongs to its appearance, consequently mediately to it itself. That narrow-minded and stupid men always experience some contempt may, at least partly, depend upon this, that the will has made the burden so easy, and, for the furtherance of its aims, has assumed only two drams of the cognitive faculty.

§ 34. Not only, as I have said above (§ 25), and also already in my principal work (vol. i. § 14), is all evidence intuitive, but all true and real understanding is so too. This is proved by the innumerable tropes in all languages, which are all efforts to reduce what is abstract to something visible. For mere abstract notions of a thing give no real understanding of the same, although they enable us to speak of it as many people talk of many things: yea, many need for this purpose not even notions, but only words; for instance, technical expressions, which they have learned, suffice

them. But, on the contrary, to understand really and truly, it is required that one conceive intuitively; that he receive a clear image, if possible, from the reality itself, but at least from the imagination. Even that which is too large or too complicated to be surveyed at a glance, must, to be really understood, be either visibly represented, or represented by something that can be surveyed; but that which does not admit of this, one must at least try to represent under some intuitive visible picture and allegory. So far intuition is the basis of our recognition. This is also shown by this, that we indeed can think *in abstracto* very large numbers, and also very great distances, which can be expressed only by such as, for instance, the astronomical ones; but that still we do not really and immediately understand them, but have only a notion of their proportion.

The philosopher should, more than any one else, gather from that original source the intuitive cognition, and therefore constantly fix his eyes on things themselves, on Nature, the world, and life; take them, and not books, for the text of his thoughts, and also constantly examine and control all notions that pass, already prepared, over to him; and take books, therefore, not as sources of cognition, but only as an assistance. For what they give he only receives at second hand, and generally also somewhat distorted — perchance only a reflection, a likeness of the original (that is, the world), and rarely is the looking-glass perfectly clear. But Nature, the reality, on the contrary, never lies; for it is she who makes all truth to be truth. The philosopher, therefore, has to make his study of her, and it is principally her great and distinct features, her chief and fundamental characteristics, whence his problem arises. He therefore will take as the object of his consideration the principal and general phenomena, those which are everywhere and at all times; but the special, particular, rare, microscopic, or passing phenomena, he will leave to the natural philosopher, to the zoologist, the historian, etc. More important things occupy him: the totality and the greatness of the world, its essential part, the fundamental truths, they are his aim. He therefore cannot at the same time occupy himself with its particularities and minutiæ just as he who, from the top of a high mountain, looks

over the land, cannot at the same time ascertain and examine the plants growing down in the valley, but leaves this to him who botanizes among them. To devote oneself and all one's faculties to a special science, one must of course like it very much, but must also have a great indifference towards all others; for the former is only possible under the condition of remaining ignorant in all others, just as he who marries one renounces all others. Spirits of the first rank will therefore never devote themselves to a special science; for the understanding of the whole lies too much at their heart. They are generals, not captains; leaders of an orchestra, not individual performers. How should a great spirit find its satisfaction in knowing perfectly, and in all its relations to others, one field, one certain branch of the community of things, and in leaving out of sight everything else? It, on the contrary, is directed to the whole; its aim is the whole of things, the world in general, and there must nothing remain unknown to him: he consequently cannot spend his life in exhausting the minutiæ of a single department.

§ 35. That the lowest of all mental operations is the arithmetical is proved by this, that this is the only one which may also be performed by a machine, as there are now in England already such calculating machines in frequent use. Now, in truth, all analysis, *finitorum et infinitorum*, traces back to counting. After this, one will understand the mathematical penetration of the mind at which Lichtenberg makes himself merry in saying: "With mathematics it is almost as with theology. Just as those following the last, especially if they fill an office, lay claim to a special credit for holiness and a nearer relationship to God, although very many amongst them are nothing but idle rogues, so the so-called mathematicians very often wish to be taken for deep thinkers, although there are amongst them the greatest blunderheads that ever can be found, unfit for any business which requires reflection, if it cannot be done by means of that easy connection of signs which are more the work of routine than of thinking.*

* Every understanding is an immediate one, and therefore an intuitive apprehension of the causal connection, although it must readily become changed into abstract notions so as to become established. Calculation is consequently no

§ 36. The eye becomes weak from long straining at one object, and does not see any more; in the same way the intellect becomes unable, by continually meditating over the same things, to find out and to comprehend more of them; it becomes weak and embarrassed. It is necessary to quit them, so as to return to them again, when we shall find them again fresh and with clear outlines. Therefore, when Plato relates in his Banquet that Socrates was standing motionless and like a statue for twenty-four hours meditating over something he remembered, we must not only say to this—*non è vero;* but also add to it, *e mal trovato.* From this want of rest of the intellect is also explained this, that if we, after any longer pause, look as it were anew into the common course of the things of this world, and thus cast a fresh, really wholly unprejudiced glance at them, their connection and their significance become most pure and most deeply clear to us, in such a way, that then we see quite plainly things, and only cannot understand how it is possible that they are not perceived by all those who constantly move amongst them. Such a clear moment, therefore, can be compared with a lucid interval.

§ 37. In a higher sense, even the hours of inspiration, with their moments of enlightening and proper conception, are nothing but the lucid intervals of genius. It therefore could be said that genius lodges only one story higher than madness. Even the reason of the reasonable operates only in lucid intervals, for he also is not always reasonable. Also the prudent man is not always thus; for sometimes he will

understanding of things. This only can be obtained in the way of intuition through correct cognition of the causality and geometrical construction of the process, as Euler gave such better than anybody else because he understood the things from the foundation. Calculation, on the contrary, has to deal with nothing but abstract notions of quantity, the relation of which to each other it fixes. By these means not the least understanding of a physical event can be obtained. For to understand such a one it requires intuitive visible comprehension of the spatial relations by means of which the causes operate. Calculation defines the *how much* and *how large*, and is therefore indispensable in practice. It even can be said: where calculation begins, understanding ends. For the head, occupied with numbers while calculating, alienated from the causal connection and the geometrical construction of the physical event, is full of mere abstract notions of numbers. But the result never tells more than *how much*, never *what*.

not be able to recall himself and to collect things most familiar to him. All this seems to paint a certain ebb and flood of the fluids of the brain, or an extension or relaxation of its fibres. Now if, at a spring-tide of this kind, some new and deep intelligence rises suddenly before us, whereby of course our thoughts attain a very high degree of vivacity, then the motive to this will always be an intuitive visible one, and an intuitive understanding always lies at the foundation of every great thought. For words awaken thoughts in others, pictures in us.

§ 38. It is understood by itself that one should write down as soon as possible valuable original meditations; for we forget sometimes what we have experienced, and much more that which we have thought. And thoughts do not come when *we* wish, but when *they* wish to come. On the contrary, whatever we receive finished from without, that which we merely have learned, it is better not to write down, therefore to make no collections; for to write down something means to consign it to oblivion. But one should treat his memory vigorously and despotically, so that it may not forget obedience; for instance, if one cannot recall to his mind anything, a verse, or word, he should on no account look for it in books, but should for weeks systematically torment his memory with it until it has done its duty. For the longer one has to think of it, the better will it stick afterwards. What one thus with great exertion has worked out from the depths of his memory, will at some other time be much readier at one's command than if one had renewed it again by means of books. Mnemonics, on the contrary, rests on this as a foundation, that one trusts more to his wit than to his memory, and therefore transfers the services of this to the former. He must substitute for something that is hard something that is easy to remember, and translate it afterwards again into the former. This mnemonics is to the natural memory what an artificial leg is to a real one, and is, like everything, subject to the expression of Napoleon: *tout ce qui n'est pas naturel est imparfait.* It is convenient to make use of it at the beginning with things newly learned, or words, like a temporary crutch, until they are incorporated into the natural, immediate memory. How our memory sets about to find

each time, out of the often immeasurable compass of its stock, just what is wanting—how the sometimes long, blind search after it goes on—how the, at first, vainly looked for comes to us generally whenever we have discovered a little thread attached to it, but at other times after hours, sometimes after days, quite of itself, without any motive, as if it were whispered to us,—all this is to us ourselves, who are active in it, a riddle; but it seems to me indisputable that those subtile and mysterious operations, on such an enormous quantity and variety of the matter to be remembered, can by no means be replaced by an artificial and conscious play with analogies, with which the natural memory, after all, always must remain as the *primum mobile*, but now has to keep in memory even two instead of one, the sign and the thing signified. At all events, such an artificial memory can take only a proportionally very small stock. Altogether, there are two modes in which things become impressed on our memory: either through intention, as we intentionally memorize them, whereby we meanwhile can also make use of mnemonic arts, if they are only numbers or words; or they impress themselves, without our assistance, by themselves, by virtue of the impression they make upon us, for which reason we may also call them lasting ones. But just as we generally do not feel a wound at the moment we receive it, but only afterwards, so also many a thought makes a deeper impression upon us than we are directly conscious of, for afterwards we remember it again; the consequence of which is that that we do not forget it, but it becomes incorporated in the system of our thought, to step forward in the right hour. To this is plainly requisite that, in some relation or other, it interest us. It therefore is required that one have a lively spirit, which eagerly takes up the objective, and aspires after knowledge and understanding. The surprising ignorance of many scholars, in things of their own department, has as its ultimate reason their want of interest for the objects of the same; consequently the observations, remarks, inspections, etc., make no vivid impression upon them, and therefore do not cling to them, as they in general do not study *con amore*, but under self-constraint: the more things there are a man takes a vivid and objective

interest in, the more will fix itself in this spontaneous mode in his memory; therefore also mostly in the youth, where the novelty of things heightens interest in them. This second mode is much surer than the first, and selects besides, quite of itself, what is most essential for us, although it will with stupid heads confine itself to personal affairs.

§ 39. The quality of our thoughts (their formal value) comes from within, but their *direction*, and through this their material, from without; so that what we think in any given moment is the product of two fundamentally different factors. The objects are therefore for the spirit only that which the plectron is for the lyre; consequently the great diversity of thoughts which the same aspect excites in different heads. When I still stood in the flower of my spirit and in the point of culmination of its powers where the brain had its highest tension, then whatever object my eye could meet talked revelations to me, and a series of thoughts arose which were worthy to be written down, and accordingly were. But in the progress of life, especially in the years of failing powers, those hours became less and less frequent; for the objects are, it is true, the plectron, but the lyre is the spirit. Whether this be well and highly tuned—that is what makes the great difference in the world's representation of itself in every head. Now as this depends upon physiological and anatomical conditions, thus, on the other side, Chance, in bringing forward the objects which shall occupy us, keeps the plectron in its hand. Nevertheless, here a great part of the matter is placed in our caprice, in so far as we, at least partly, can design it by means of the objects with which we occupy or surround ourselves. Upon this we therefore should devote some care, and proceed with methodical intention.

The excellent little book of Locke *On the Conduct of the Understanding* gives us instruction on this point. Good, serious thoughts on worthy objects, however, cannot be called up arbitrarily at any time: all that we can do is to keep the road open for them by scaring away all futile, insipid or common-place ruminations, and by averting all tricks and farces. It therefore can be said, that, to think something judicious, the first means is to think nothing absurd. Leave

the plain free only to good thoughts: they will come. For the same reason, one should not in every moment in which he is not occupied directly take a book in hand, but he should get settled in his head; then easily something good might rise in it. Very judicious is the observation Riemer made in his book on Goethe, that original thoughts almost only come while walking or standing, hardly ever in sitting. Now, because generally the rising of vivid, impressive, worthy thoughts is more the consequence of inner than of outer conditions, it becomes explicable from this, that of such thoughts several, regarding quite different objects, will appear quickly one after another, and often at the same time, in which case they cross and interfere with each other like crystals,—even that may happen to us which happened to him who hunted two hares at the same time.

§ 40. How narrow and poor the normal human intellect is, and how small the clearness of consciousness is, may be judged from this, that, in spite of the ephemeral shortness of the life of man cast into an endless time, of the uncertainty of our existence, of the innumerable riddles urging themselves everywhere, the important character of so many phenomena, and the thorough insufficiency of life—yet all are not constantly and unremittingly philosophizing—nay, not even many, or even only some, only few; no, only one now and then, only the rare exceptions. The rest live on in this dream not much different from the animals, from which after all they only distinguish themselves through foresight for several years in advance. For the metaphysical want which perhaps could announce itself has been taken care of from above in advance by means of religions; and these, no matter how they may be, do suffice. However, it may be that secretly there is more philosophizing than is apparent. For, truly, a dubious situation is ours!—to live a span of time, full of trouble, misery, anguish, and pain, without knowing in the least *wherefrom*, *whereto*, and *what for;* and to have, in addition to all this, the priests, of all colors, with their respective revelations on the matter, together with their threatenings against infidels.

THE GRAMMAR OF DIONYSIOS THRAX.

Translated from the Greek by THOS. DAVIDSON.

[This famous little pamphlet, the first attempt at a systematic grammar made in the Western World, and for many generations a text-book in the schools of the Roman Empire, appears, I believe, now for the first time in English. Pretty nearly all that we know about the person of Dionysios is what we are told by Suidas, who says:

"DIONYSIOS the Alexandrian, called *the Thracian* from [the native country of] his father Teros, was a disciple of Aristarchos, and a grammarian. He was a public professor (*ἐσοφίστευσεν*) in Rome in the time of Pompey the Great, and was preceptor to Tyrannion the Elder. He composed a very large number of grammatical works, as well as set treatises and commentaries."—Cf. Max Müller, *Lectures on the Science of Language*, 1st Ser., p. 90 (English ed.); Lentz, *Herodiani Technici Reliquiæ*, Præf. p. clxvi.; Steinthal, *Gesch. der Sprachw. bei den Griechen und Römern*, pp. 478, 568 sqq.

The Grammar of Dionysios was first printed (I believe, though Lersch says "*zuletzt* abgedruckt") in 1816, in Immanuel Bekker's *Anecdota Græca* (pp. 629-643) along with the scholia of Chœroboskos, Diomedes, Melampous, Porphyry, and Stephanos (pp. 647-972). The genuineness and authenticity of the work have been impugned, but have been defended by Lersch, *Die Sprachphilosophie der Alten*, Pt. II. pp. 64 sqq., and are now generally admitted. Cf. K. E. A. Schmidt, *Beiträge zur Geschichte der Grammatik des Gr. und des Lat.*, pp. 81, 189, 216, 519.

To my very literal translation I have added a few explanatory notes which seemed necessary, and a number of references for the convenience of persons who may wish to pursue the subject further.—*Translator.*]

1. ON GRAMMAR. (*γραμματική*).

Grammar is an experimental knowledge (*ἐμπειρία*) of the usages of language as generally current among poets and prose writers. It is divided into six parts:

1°. Trained reading with due regard to Prosody.*

2°. Explanation according to poetical figures.

3°. Ready statement of dialectical peculiarities† and allusions (*ἱστορίαι*).

4°. Discovery of Etymology.

5°. An accurate account of analogies.‡

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* Prosody (*προσῳδία*), in the Greek sense, includes everything designated by diacritical marks—aspiration, accentuation, quantity, and sometimes pauses. Vid. Bekker, *Anecdota Græca*, pp. 679 sqq.; K. E. A. Schmidt, *Beiträge zur Geschichte der Grammatik*, pp. 181 sqq. Prosody had nothing whatsoever to do with verse-making, although it was related to music.

† Vid. Waitz, *Aristotelis Organon*, vol. i. pp. 323 sq.

‡ Here came in all that we generally understand by Grammar. The whole of the first part of Lersch's *Sprachphilosophie der Alten* is devoted to the question of Analogy and Anomaly.

6°. Criticism* of poetical productions, which is the noblest part of grammatic art.

2. On Reading (*ἀνάγνωσις*).

Reading is the rendering of poetic or prose productions without stumbling or hesitancy. It must be done with due regard to expression, prosody, and pauses. Through the expression† we learn the merit (*ἀρετή*) of the piece; from the prosody, the art of the reader; and from the pauses, the meaning intended to be conveyed. In this way we read tragedy heroically, comedy conversationally, elegiacs thrillingly, epics sustainedly, lyric poetry musically, and dirges softly and plaintively. Any reading done without due observance of these rules degrades the merits of the poets and makes the habits of readers ridiculous.

3. On Tone (*τόνος*).

Tone‡ is the resonance of a voice endowed with harmony. It is heightened in the acute, balanced in the grave, and broken in the circumflex.

4. On Punctuation (*στιγμή*).§

There are three punctuation marks: the full stop, the semicolon, and the comma.‖ The full stop denotes that the sense is complete; the semicolon is a sign of where to take breath; the comma shows that the sense is not yet complete, but that something further must be added.

5. Wherein does the full stop differ from the comma? (*τίνι διαφέρει στιγμὴ ὑποστιγμῆς;*)¶

In time. At the full stop the pause is long, at the comma, very short.

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* Such Criticism apparently did not include a discussion of the poetical merits of a piece (*κρίνει δὲ τὰ ποιήματα οὐχ ὅτι καλά ἐστιν ἢ κακά· ποιητοῦ γὰρ ἂν εἴη τὸ τοιοῦτον.*)

† Expression (*ὑπόκρισις*) is defined as being equivalent to *μίμησις* or Imitation.

‡ Tone is what we usually call accent. The Latin *accentus*, however, formed in imitation of the Greek *προσῳδία*, was undoubtedly intended to have the same width of meaning as the latter. Vid. Schmidt, *Beiträge*, pp. 190 sqq.

§ On this whole question, vid. Schmidt, *Beiträge*, pp. 506–570.

‖ These terms are hardly accurate; the sequel explains their meaning.

¶ It will be seen that in practice Dionysios distinguishes only *two* punctuation marks, the *στιγμὴ μέση* (semicolon) being really not one at all.

6. On Rhapsody (*ῥαψῳδία*).

A Rhapsody is a part of a poem including a certain (definite) argument. It is called a rhapsody, that is, rhabdody, because those who recited the Homeric poems were girt with a laurel branch (*ῥάβδος*).*

7. On Elements (*στοιχεῖα*).†

There are twenty-four letters from *α* to *ω*. They are called letters (*γράμματα*) from being formed of lines and scratches. For to write (*γράψαι*), among the ancients, meant to scratch (*ξύσαι*), as in Homer:

νῦν δέ μ' ἐπιγράψας ταρσὸν ποδὸς εὐχεται αὖτως.

They are also called elements (*στοιχεῖα*) from being in a certain series (*στοιχός*) or arrangement.

Of these letters, seven are *Vowels: α, ε, η, ι ο, υ,* and *ω*. They are called vowels (*φωνήεντα*) because they form a complete sound (*φωνή*) by themselves. Of the vowels, two are *long, η* and *ω*; two are short, *ε* and *ο*; and three are *doubtful, α, ι, υ*. They are called doubtful‡ because they may be either lengthened or shortened. Five of the vowels are *prepositive, α, ε, η, ο, ω*. They are called prepositive because, when placed before *ι* or *υ*, they form a syllable, as *αι, αυ*. Two are *subjunctive, ι* and *υ*. *Γ* is sometimes prepositive to *ι*, as in *μωῖα, ἅρπυια, υἱός*, and the like. There are six diphthongs, *αι, αυ, ει, ευ, οι, ου*.

The remaining seventeen letters are *Consonants, β, γ, δ, ζ, θ, κ, λ, μ, ν, ξ, π, ρ, σ, τ, φ, χ, ψ*. They are called consonants because by themselves they have no sound, but produce a sound only when they are combined with vowels.§ Of the

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* Cf. Grote, *Hist. of Greece*, vol. ii. p. 141, note; Wolf. Proleg., pp. 58 sqq. (Edit. Calvary); K. O. Müller, *Hist. of Lit. of Ancient Greece*,, pp. 33 sqq.

† On Στοιχεῖον, vid. Aristotle, *Metaph.* I. 1 (1026, b. 12); Bonitz, *Aristotelis Metaph.* pp. 225 sq.; Schmidt, *Beiträge*, pp. 80 sqq., 126. Aristotle's definition of στοιχεῖον, as meaning a sound, is: "An element is an indivisible sound, not applicable, however, to every such sound, but only to those which are capable of entering into the formation of intelligible speech."—*Poet.* cap. xx. Cf. Steinthal, *Gesch. der Sprachw. bei den Gr. und Röm.*, pp. 248 sq.

‡ Δίχρονοι = of twofold time. Cf. Rossbach und Westphal, *Metrik der Griech.*, vol. ii. pp. 66 sqq.

§ Aristotle, *Poetics*, cap. xx., makes three divisions of sounds — *τό τε φωνῆεν καὶ τὸ ἡμίφωνον καί ἄφωνον* — vowels, semivowels, and mutes. Cf. with the whole of Dionysios' classification, Schleicher, *Compend. der verg. Grammatik der*

consonants, eight are *Semivowels*, ζ, ξ, ψ, λ, μ, ν, ρ, ς. They are called semivowels because, being less easily sounded than the vowels, when attempted to be pronounced alone, they result in hisses and mumblings. There are nine *Mutes*, β, γ, δ, ϑ, κ, π, τ, φ, χ. They are called mutes because they are more disagreeable in sound than the others, just as we say that a tragedian with a disagreeable voice is mute (ἄφωνος = voiceless). Of these, three are *smooth*, κ, π, τ; three are *rough*, ϑ, φ, χ; and three are *medial*, β, γ, δ. The last are called medials because they are rougher than the smooths, and smoother than the roughs. And β is the medial between π and φ, γ between κ and χ, and δ between τ and ϑ. The roughs stand related to the smooths thus:

φ to π—ἀλλά μοι εἴφ' ὅπῃ ἔσχες ἰὼν εὐεργέα νῆα·
χ to κ—αὐτίχ' ὁ μὲν χλαῖνάν τε χιτῶνά τε ἕννυτ' Ὀδυσσεύς·
ϑ to τ—ὣς ἔφαϑ', οἱ δ' ἄρα πάντες ἀκὴν ἐγένοντο σιωπῇ.

Again, of the consonants, three are *double*, ζ, ξ, ψ. They are called double because each one of them is composed of two consonants, ζ of ς and δ,† ξ of κ and σ, ψ of π and σ. Four are *unchangeable*. They are called unchangeable because they do not change in the futures of verbs or the inflections of nouns. They are likewise called *liquids*. The final elements of masculine nouns, in the nominative case, singular number, are five, ν, ξ, ρ, σ, ψ, as *Δίων*, *Φοῖνιξ*, *Νέστωρ*, *Πάρις*, *Πέλοψ*; of feminine nouns, eight, α, η, ω, ν, ξ, ρ, σ, ψ, as *Μοῦσα*, *Ἑλένη*, *Κλειώ*, *χελιδών*, *ἔλιξ*, *μήτηρ*, *Θέτις*, *λαῖλαψ*; of neuters, six, α, ι, ν, ρ, σ, υ, as *ἅρμα*, *μέλι*, *δένδρον*, *ὕδωρ*, *δέπας*, *δόρυ*. Some add also ο, as in *ἐκεῖνο*, *τοῦτο*, *ἄλλο*. The final elements of duals are three, α, ε, ω, as *Ἀτρείδα*, *Ἕκτορε*, *φίλω*; of plurals, four, ι, ς, α, η, as *φίλοι*, *Ἕκτορες*, *βιβλία*, *βέλη*.

8. On Syllables (*συλλαβαί*).‡

A Syllable is properly the combination of a vowel§ with a

Indoger. Spr., pp. 54 sqq. *et passim;* Curtius, *Grundzüge der griech Etymologie*, pp. 85 sqq.; Max Müller, *Lectures*, 2d Series, Lect. III.

† Cf. Aristotle, *Metaph.* A 9 (993ª 5), ν 6 (1093ª 20); Kühner, *Ausführ. Gram. der Gr. Spr.*, vol. i. p. 55.

‡ Cf. Aristotle, *Poetics*, cap. xx.; Schmidt, *Beiträge*, pp. 126–180; Steinthal, *Sprachw. bei den Gr. und Röm.*, p. 254.

§ Or diphthong, evidently.

consonant or consonants, as *Κᾶρ*, *βοῦς*. Improperly we speak of a syllable as composed of a single vowel, as *ᾶ*, *ῆ*.

9. On Long Syllables (*μακραὶ συλλαβαί*).

A long syllable may come about in eight ways, three by nature and five by position*: by nature, when it is represented by the long elements, as *ἥρως* — or when one of the doubtful elements is assumed as long, as *Ἄρης* — or when it contains one of the diphthongs, as *Αἴας*; by position, either when it ends in two consonants, as *ἅλς* — or when a short or shortened† vowel is followed by two consonants, as *ἀργός* — or when it ends in a single consonant and the next syllable begins with a consonant, as *ἔργον* — or when it is followed by a double consonant, as *ἕξω* — or when it ends in a double consonant, as *ἅπαξ*.

10. On Short Syllables (*βραχεῖαι συλλαβαί*).

A syllable becomes short in two ways, either when it contains a vowel naturally short, as *βρέφος* — or when it has a doubtful vowel assumed as short, as *Ἄρης*.‡

11. On Common Syllables (*κοιναὶ συλλαβαί*).

A syllable is common in three ways, either when it ends in a long vowel while the next syllable begins with a vowel, as

Οὐτί μοι αἰτίη ἐσσί· θεοί νύ μοι αἴτιοί εἰσιν—

or when a shortened vowel is followed by two consonants, whereof the latter is an unchangeable, while the former is by itself a mute, as

Πάτροκλέ μοι δειλῇ πλεῖστον κεχαρισμένε θυμῷ—

or when, being short, it stands at the end of a part of speech and the next syllable begins with a vowel, as

Νέστορα δ' οὐκ ἔλαθεν ἰαχὴ πίνοντά περ ἔμπης.

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* Position (*θέσις*), in this connection, does not mean, as is generally supposed, place, but convention, arbitrary imposition, as opposed to nature (*φύσις*). Vid. Lersch, ***Sprachphilosophie***, Pt. I. p. 5; Rossbach und Westphal, ***Metrik der Griechen***, vol. ii. p. 74. This shows the utter absurdity of the rule, laid down in so many Greek and Latin grammars, that a vowel followed by two consonants is long.

† A short vowel is either *ε* or *ο*; a shortened vowel is a doubtful vowel (*α*, *ι*, *υ*) assumed as short.

‡ Cf. Hom. *Il.*, v. 31:

Ἄρες, Ἄρες, βροτολοιγέ, μιαιφόνε, τειχεσιπλῆτα.

12. On the Word (λέξις).

A Word is the smallest part of an ordered sentence.*

13. On the Sentence (λόγος).†

A Sentence is combination of words, either in prose or in verse, making complete sense. There are eight parts of speech: Noun, Verb, Participle, Article, Pronoun, Preposition, Adverb, and Conjunction. The proper noun, as a species, is subordinate to the noun.‡

14. On the Noun (ὄνομα).

A Noun is a declinable part of speech, signifying something either concrete or abstract (concrete, as stone; abstract, as education); common or proper (common, as man, horse; proper, as Socrates, Plato).§ It has five accidents: genders, species, forms, numbers, and cases.

There are three *Genders*, the masculine, the feminine, and the neuter. Some add to these two more, the common and the epicene — common, as man, horse; epicene, as swallow, eagle.

There are two *Species* of nouns, the primitive and the derivative. A primitive noun is one which is said according to original imposition, as γῆ (earth); a derivative noun is one which derives its origin from another noun, as γαήιος (earth-born). There are seven classes of derivatives: Patronymics, Possessives, Comparatives, Diminutives, Nominals, Superlatives, and Verbals. A *Patronymic* is properly a noun formed from the name of a father, improperly a noun formed from the name of another ancestor, e.g., Achilleus is called both

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* Cf. Aristotle, *Poetics*, capp. xix.–xxii.; Waitz, *Aristotelis Organon*, vol. i. pp. 323 sq.; Steinthal, *Gesch. des Sprachwiss.*, pp. 285 sqq.; J. Vahlen, *Aristoteles Lehre von der Rangfolge der Theile der Tragœdie*, in *Symbola Philologorum Bonnensium*, pp. 180 sqq.

† Aristotle (*De Interp.*, cap. iv.) defines λόγος as "significant sound, whereof any one part is separately significant as an expression, but not as an affirmation." Cf. Schmidt, *Beiträge*, pp. 218 sqq.; Steinthal, *Sprachwiss. bei den Gr. und Röm.*, pp. 568 sqq.; Lersch, *Sprachphilosophie*, Pt. II., *passim*.

‡ Directed against the Stoics, who made the προσηγορία a distinct part of speech.

§ Aristotle (*De Interp.*, cap. ii.) says: "A noun is a sound significant according to convention (θέσις = position), timeless, whereof no part is separately significant." Cf. Schmidt, *Beiträge*, p. 227 sqq.

Peleides and Aiakides. Of masculine patronymics there are three forms, one in *δης*, one in *ων*, and one in *άδιος*—e.g. Atreion, Atreides, and the form peculiar to the Æolians, Hyrradios. (Pittakos was the son of Hyrras.) Of feminine patronymics there are likewise three forms, one in *ις*, as Priamis; one in *ας*, as Pelias; one in *νη*, as Adrastinê. From the names of mothers, Homer forms no species of patronymics; later authors do. A *Possessive* is a noun which denotes possession and includes the possessor, as *Νηλήιαι ἵπποι* (Neleian mares), *Ἑκτόρεος χιτών* (Hektorean robe), *Πλατωνικὸν βιβλίον* (Platonic book). A *Comparative* is a noun making a comparison of one individual with another individual of the same genus, e.g. Achilleus *braver* than Aias; or of one individual with many of a different genus, e.g. Achilleus *braver* than the Trojans. Of comparatives there are three forms, one in *τερος*, as *ὀξύτερος*, *βραδύτερος*; one in *ων* pure, as *βελτίων*, *καλλίων*; one in *σων*, as *κρείσσων*, *ἥσσων*. A *Superlative* is a noun used to express the superiority of one individual over many in a comparison. There are two forms of it, one in *τατος*, as *ὀξύτατος*, *βραδύτατος*; and one in *στος*, as *μέγιστος*, *ἄριστος*. A *Diminutive* is a noun expressing a diminution of the primitive word without comparison, as *ἀνθρωπίσκος* (mannikin), *λίθαξ* (stonelet), *μειρακύλλιον* (stripling). A *Nominal* is a word formed alongside a noun, or as from a noun, as Theon, Tryphon. A *Verbal* is a noun derived from a verb, as Philemon, Noëmon.

There are three *Forms* of nouns, simple, compound, and super-compound—simple, as Memnon; compound, as Agamemnon; super-compound, as Agamemnonides, Philippides. Of compounds there are four kinds; 1°. those compounded of two complete words, as Cheirisophos; 2°. those compounded of two incomplete words, as Sophokles; 3°. those compounded of an incomplete and a complete word, as Philodemos; and 4°. those compounded of a complete word and an incomplete, as Periklês.

There are three *Numbers*, singular, dual, and plural; singular, as *Ὅμηρος* (Homer); dual, as *τὼ Ὁμήρω* (both Homers); plural, as *Ὅμηροι* (Homers). There are some singular designations used of plural objects, as *δῆμος* (people), *χορός* (chorus); and plural designations used of singular and dual

objects — of singular, as *Ἀθῆναι, Θῆβαι* (Athens, Thebes) — of dual, as *ἀμφότεροι* (both).

There are five *Cases*, the right, the generic,* the dative, the accusative, and the vocative. The right case is called also the nominative and the direct; the generic, the possessive, and the patrial; the dative, the injunctive: while the accusative is named from *cause*, and the vocative is called the allocutive.

The following terms, expressive of accidents belonging to the noun, are also called *Species:* proper, appellative, adjective, relative, quasi-relative, homonym, synonym, pheronym, dionym, eponym, national, interrogative, indefinite, anaphoric (also called assimilative, demonstrative, and retributive), collective, distributive, inclusive, onomatopoetic, general, special, ordinal, numeral, participative, independent.

A *Proper* noun is one signifying a peculiar substance,† as Homer, Sokrates. An *Appellative* is one that signifies a common substance, as *man, horse.* An *Adjective* noun is one that is applied homonymously‡ to proper or appellative nouns, and signifies either praise or blame. It is derived from three sources, from the soul, the body, and external things: from the soul, as *sage, licentious;* from the body, as *swift, slow;* from external things, as *rich, poor.* A *Relative* noun is such as *father, son, friend, right* (hand). A *quasi-Relative* is such as *night, day, death, life.* A *Homonym* is a noun predicated homonymously of many things, as of proper nouns, e.g. *Telamonian Aias, Oïlean Aias;* of aplative nouns, as *sea*-mouse, *land*-mouse. A *Synonym* is a noun which, by several designations, signifies the same thing, as *glaive, sword, bludgeon, blade, brand.* A *Pheronym* is a name given from some accident, as *Tisamenos* and *Megapenthes.* A *Dionym* is a couple of names applied to the same proper noun, as Alexander and Paris, without there being any reciprocity in their signification; e.g., if one is Alexan-

* Γενική, on no account to be rendered by *genitivus* (genitive), as the Romans did. Vid. Max Müller, *Lectures*, 1st Series, p. 180 sq. (Eng. edit.); Schmidt, *Beiträge*, pp. 320 sqq.

† Cf. Aristotle, *Categ.*, cap. v.

‡ Cf. Aristotle, *Categ.*, cap. i.: "Things which have a common name, but whereof the notions corresponding to that name are different, are said to be *homonymous.*"

der, it does not follow that he is Paris. An *Eponym* (also called Dionym) is a noun which, along with another proper noun, is applied to one object, as Poseidón is called Enosichthon, and Apollo, Phœbos. A *National* name is one showing to what nation an individual belongs, as Phrygian, Galatian. An *Interrogative* (also called an Inquisitive) is so called from being employed in interrogations, as τίς; (who?)—ποῖος; (of what sort?)—πόσος; (how great?)—πηλίκος; (how old?) An *Indefinite* is a noun placed in opposition to an Interrogative, as ὅστις (whosoever), ὁποῖος (of whatever sort), ὁπόσος (however great), ὁπηλίκος (of whatever age). An *Anaphoric* noun (called also an Assimilative, a Demonstrative, or an Attributive) is one signifying similarity, as τοιοῦτος (as great), τηλικοῦτος (as old), τοιοῦτος (such). A *Collective* noun is one which, in the singular number, signifies a multitude, e.g. δῆμος (people), χορός (chorus), ὄχλος (crowd). A *Distributive* noun is one having a relation to one out of two or more, as ἕτερος (the other), ἑκάτερος (each), ἕκαστος (every one). An *Inclusive* noun is one that shows what is contained in it, as δαφνών (laurel-grove), παρθενών (virgin's abode). An *Onomatopoetic* noun is one formed imitatively from the peculiarities of sounds, as φλοῖσβος (dashing), ῥοῖζος (whistling), ὀρυμαγδός (rattle). A *General* noun is one that can be divided into a number of species, as *animal*, *plant*. A *Special* noun is one of those into which a genus is divided, e.g. *ox*, *horse*; *vine*, *olive*. An *Ordinal* is a noun showing order, as *first*, *second*, *third*. A *Numeral* is a noun signifying number, as *one*, *two*, *three*. A *Participative* is a noun partaking of a certain substance, as *golden*, *silvern*. An *Independent* noun is one which is thought by itself, as *God*, *Reason*.

The *Dispositions* of the noun are two, Activity and Passivity; Activity, as *the judge*, *the judging*; Passivity, as *the judgeable*, *the judged*.

15. On the Verb (ῥῆμα).*

A Verb is an indeclinable word, indicating time, person

* Aristotle (*De Interp.*, cap. iii.) says: "A Verb is that which adds a time-specification, of which no part separately signifies anything, and which is always asserted of something else." Cf. Schmidt, *Beiträge*, pp. 344 sqq.; Harris, *Hermes*, Book I. cap. 6.

and number, and showing activity or passivity. The verb has eight accidents: Moods, Dispositions (voices!), Species, Forms, Numbers, Tenses, Persons, Conjugations. There are five *Moods:* Indicative, Imperative. Optative, Subjunctive, and Infinitive. There are three *Dispositions*:* Activity, Passivity, and Mediality—Activity, as *τύπτω* (I strike); Passivity, as *τύπτομαι* (I am struck); Mediality, marking partly activity and partly passivity, as *πέποιθα* (I trust), *διέφθορα* (I waste), *ἐποιησάμην* (I became), *ἐγραψάμην* (I registered). There are two *Species:* Primitive and Derivative—Primitive, as *ἄρδω*; Derivative, as *ἀρδεύω*. There are three *Forms:* Simple, Compound, and Super-Compound—Simple, as *φρονῶ*; Compound, as *καταφρονῶ*; Super-Compound, as *ἀντιγονίζω* (I Antigonize), *φιλιππίζω* (I Philippize). There are three *Numbers:* Singular, Dual, and Plural—Singular, as *τύπτω*; Dual, as *τύπτετον*; Plural, as *τύπτομεν*. There are three *Persons:* First, Second, and Third. The First is the person *from* whom the assertion is; the Second, the one *to* whom it is; and the Third, the one *concerning* whom it is. There are three *Tenses:* Present, Past, Future. Of these, the Past has four sub-species—Imperfect, Perfect, Pluperfect, and Aorist—which stand in three respective relations: the Present is related to the Imperfect, the Perfect to the Pluperfect, and the Aorist to the Future.

16. On Conjugation (*συζυγία*).

Conjugation is the consecutive inflection of Verbs. Of Barytone Verbs there are six conjugations, of which the First is characterized by *β*, *φ*, *π*, or *πτ*, as *λείβω*, *γράφω*, *τέρπω*, *κόπτω*; the Second by *γ*, *κ*, *χ*, or *κτ*, as *λέγω*, *πλέκω*, *τρέχω*, *τίκτω*; the Third by *δ*, *θ*, or *τ*, as *ᾄδω*, *πλήθω*, *ἀνύτω*; the Fourth by *ζ* or *σσ*, as *φράζω*, *νύσσω*, *ὀρύσσω*; the Fifth by the four unchangeables, *λ*, *μ*, *ν*, *ρ*, as *πάλλω*, *νέμω*; and the Sixth by a pure, as *ἱππεύω*, *πλέω*, *βασιλεύω*, *ἀκούω*. Some also introduce a Seventh Conjugation, characterized by *ξ* and *ψ*, as *ἀλέξω*, *ἕψω*.

17. On Circumflexed Verbs (*περισπώμενα*).

Of Circumflexed Verbs there are three Conjugations, of which the First is characterized in the second and third persons by the diphthong *ει*, as *νοῶ*, *νοεῖς*, *νοεῖ*; the Second by

* *Διάθεσις*, the word which Roman stupidity rendered by *Vox* (voice).

the diphthong *ᾳ*, as *βοῶ*, *βοᾷς*, *βοᾷ* (the *ι* being added in writing,* but not pronounced); and the Third by the diphthong *οι*, as *χρυσῶ*, *χρυσοῖς*, *χρυσοῖ*.

18. On Verbs in *μι* (*τὰ εἰς μι*).

Of Verbs ending in *μι* there are four conjugations, of which the First is characterized from the first of the Circumflexed Conjugations, as from *τιθῶ* comes *τίθημι*; the Second from the second, as from *ἱστῶ*, *ἵστημι*; the Third from the third, as from *διδῶ*, *δίδωμι*; and the Fourth from the sixth of the Barytone Conjugations, as from *πηγνύω*, *πήγνυμι*.

19. On the Participle (*μετοχή*).

A Participle is a word partaking of the nature both of nouns and verbs. It has all the accidents which belong to nouns as well as those which belong to verbs, except mood and person.

20. On the Article (*ἄρθρον*).

An Article is a declinable part of speech prefixed or subjoined to the various cases of nouns, taking, when prefixed, the form *ὁ*, and, when subjoined, the form *ὅς*.† It has three accidents: Gender, Number, and Case. The *Genders* are three, as *ὁ ποιητής*, *ἡ ποίησις*, *τὸ ποίημα*. The *Numbers* are three: Singular, Dual, and Plural — Singular, as *ὁ*, *ἡ*, *τό*; Dual, as *τώ*, *τά*; Plural, as *οἱ*, *αἱ τά*. The *Cases* are—*ὁ*, *τοῦ*, *τῷ*, *τόν*, *ὦ*; *ἡ*, *τῆς*, *τῇ*, *τήν*, *ὦ*; *τό*, *τοῦ*, *τῷ*, *τό*, *ὦ*.

21. On the Pronoun (*ἀντωνυμία.*)‡

A Pronoun is a word assumed instead of a noun, and indicating definite persons. It has six accidents: Person, Gender, Number, Case, Form, and Species.

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* It was not *subscribed* till the twelfth century of our era. Vid. Kühner, *Ausführ. Gram. der Gr. Spr.*, vol. i. p. 59, note (2d edit.) Chœroboskos (*Bekker, Anec. Græca*, vol. p. 1186) says: "It must be understood that grammarians, whose attention is directed to pronunciation, say that the *ι* is unpronounced when it is found with (follows) *α* long, *η*, or *ω*, * * * * *; but musicians, who stickle for accuracy, say that it is pronounced, but is not distinctly heard on account of the length of the [preceding] long vowels."

† The ancient *ἄρθρον* included both the article and the relative pronoun. Cf. Lersch, *Sprachphilosophie*, Pt. II. pp. 132 sqq.; Steinthal, *Sprachw. bei den Gr. und Röm.*, pp. 660 sqq.; Harris, *Hermes*, Bk. II., cap. 1.

‡ Lersch, Pt. II. *passim*; Steinthal, pp. 663 sqq.; Harris, *Hermes*, Bk. I. cap. v.

22. On Primitive Pronouns.

The *Persons* of the Primitive Pronouns are ἐνώ, σύ, ἵ; those of the Derivative Pronouns, ἐμός, σός, ὅς. The *Genders* of the Primitive Pronouns are not expressed in speech, but by the indication which they make, as ἐγώ (I), whereas the Genders of the Derivatives are expressed in speech, as ὁ ἐμός, ἡ ἐμή, τὸ ἐμόν. The *Numbers* of the Primitives are—Singular, ἐγώ, σύ, ἵ; Dual, νῶϊ, σφῶϊ; Plural, ἡμεῖς, ὑμεῖς, σφεῖς: those of the Derivatives—Singular, ἐμός, σός, ὅς; Dual, ἐμώ, σώ, ὥ; Plural, ἐμοί, σοί, οἵ. The *Cases* of the Primitives are—Direct, ἐγώ, σύ, ἵ; Generic, ἐμοῦ, σοῦ, οὗ; Dative, ἐμοί, σοί, οἱ; Accusative, ἐμέ, σέ, ἕ; Vocative, σύ: those of the Derivatives are ἐμός, σός, ὅς; ἐμοῦ, σοῦ, οὗ; ἐμῷ, σῷ, ᾧ; ἐμόν, σόν, ὅν. There are two *Forms:* Simple and Compound—Simple, ἐμοῦ, σοῦ, οὗ; Compound, ἐμαυτοῦ, σαυτοῦ, ἑαυτοῦ. There are two *Species*, inasmuch as some are Primitive, as ἐγώ, σύ, ἵ, and others Derivative, as are all the Possessives, which are also called Bi-personals. They are thus derived—from Singulars, those designating one possessor, as ἐμοῦ, ἐμός; from Duals, those designating two, as from νῶϊ, νωΐτερος; from Plurals, those designating many, as from ἡμεῖς, ἡμέτερος. Of the Pronouns, some are [used] without the article and some with it—without the article, as ἐγώ; with the article, as ὁ ἐμός.

23. On Prepositions (πρόθεσις).*

A Preposition is a word placed before any of the parts of speech, both in Composition and in Syntax. The number of Prepositions is eighteen, whereof six are monosyllabic, ἐν, εἰς, ἐξ, πρό, πρός, σύν—which are incapable of anastrophé—and twelve are dissyllabic, ἀνά, κατά, διά, μετά, παρά, ἀντί, ἐπί, περί, ἀμφί, ἀπό, ὑπό, ὑπέρ.

24. On the Adverb (ἐπίῤῥημα).†

An Adverb is an indeclinable part of speech, said of a verb or added to a verb. Of the Adverbs, some are Simple, and others Compound—Simple, as πάλαι; Compound, as πρόπαλαι. Some are indicative of time, as νῦν, τότε, αὖθις: to these we

* Lersch, *passim*; Steinthal, 671 sqq.; Harris, *Hermes*, Bk. II. cap. iii.

† Lersch, *passim*; Steinthal, 672; Harris, *Hermes*, Bk. I. cap. xi.; Schmidt, *Beiträge*, pp. 485 sqq.

must subordinate as species those that connote particular times or seasons, as *σήμερον*, *αὔριον*, *τόφρα*, *τέως*, *πηνίκα*. Some indicate manner, as *καλῶς*, *σοφῶς*, *δυνατῶς*; some, quality, as *πῦξ*, *λάξ*, *βοτρυδόν*, *ἀγεληδόν*; some, quantity, as *πολλάκις*, *ὀλιγάκις*, *μυριάκις*; some, number, as *δίς*, *τρίς*, *τετράκις*; some, place, as *ἄνω*, *κάτω*—of these there are three kinds, those signifying *in* a place, those signifying *to* a place, and those signifying *from* a place, as *οἴκοι*, *οἴκαδε*, *οἴκοθεν*. Some Adverbs signify a wish, as *εἴθε*, *αἴθε*, *ἄβαλε*; some express horror, as *παπαί*, *ἰού*, *φεῦ*; some, denial or negation, as *οὔ*, *οὐχί*, *οὐ δῆτα*, *οὐδαμῶς*; some, agreement, as *ναί*, *ναίχι*; some, prohibition, as *μή*, *μὴ δῆτα*, *μηδαμῶς*; some, comparison or similarity, as *ὥς*, *ὥσπερ*, *ἠΰτε*, *καθά*, *καθάτερ*; some, surprise, as *βαβαί*; some, probability, as *ἴσως*, *τάχα*, *τυχόν*; some, order, as *ἑξῆς*, *ἐφεξῆς*, *χωρίς*; some, congregation, as *ἄρδην*, *ἅμα*, *ἦλιθα*; some, command, as *εἶα*, *ἄγε*, *φέρε*; some, comparison, as *μᾶλλον*, *ἧττον*; some, interrogation, as *πόθεν*, *ποῦ*, *πηνίκα*, *πῶς*; some, vehemence, as *σφόδρα*, *ἄγαν*, *πάνυ*, *μάλιστα*; some, coincidence, as *ἅμα*, *ὁμοῦ*, *ἁμυδίς*; some are deprecative, as *μά*; some are asseverative, as *νή*; some are positive, as *ἀγνωστέον*, *γραπτέον*, *πλευστέον*; some express ratification, as *δηλαδή*; and some enthusiasm, as *εὐοῖ*, *εὐάν*.

25. On Conjunctions (*σύνδεσμος*).*

A Conjunction is a word binding together a thought in order and filling up the hiatuses of speech. Of conjunctions, some are copulative, some disjunctive, some conjunctive, some præter-conjunctive, some causative, some dubitative, come conclusive, and some expletive. *Copulative* Conjunctions are those which bind together a discourse which flows on indefinitely: they are these, *μέν*, *δέ*, *τέ*, *καί*, *ἀλλά*, *ἠμέν*, *ἠδέ*, *ἀτάρ*, *αὐτάρ*, *ἤτοι*. *Disjunctive* Conjunctions are those which bind the phrase more firmly together, and disjoin the facts expressed: they are these, *ἤ*, *ἤτοι*, *ἠέ*. *Conjunctive* Conjunctions are those which do not indicate any actual existence, but signify sequence: they are these, *εἰ*, *εἴπερ*, *εἰδή*, *εἰδήπερ*. The *Præter-conjunctives* are those which, along with actual existence, show also order: they are these, *ἐπεί*, *ἐπείπερ*, *ἐπειδή*,

* Aristotle, *Poet.*, cap. xx.; Lersch, *passim;* Steinthal, pp. 673 sqq.; Harris. *Hermes*, Bk. II. cap. ii.

ἐπειδήπερ. *Causatives* are those which are taken to express cause: they are these, ἵνα, ὄφρα, ὅπως, ἕνεκα, οὕνεκα, ὅτι, διό, διότι, καθό, καθότι, καθόσον. *Dubitatives* are those which we are wont to use when we are in doubt; they are these, ἄρα, κἄτα, μῶν. *Inferentials* are those which lend themselves readily to conclusions and summings-up of demonstrations: they are these, ἄρα, ἀλλά, ἀλλὰ μέν, τοίνυν, τοιγάρτοι, τοιγαροῦν. *Expletives* are those which are used for the sake of metre or ornament: they are these, δή, ῥά, νύ, πού, τοί, θήν, ἄρ, δῆτα, πέρ, πώ, μήν, ἄν, αὖ, οὖν, κέν, γέ. Some persons add also *Adversatives*, as ἔμπης, ὅμως.

KANT'S ETHICS.

By James Edmunds.

[Continued from Vol. V., p. 307.]

V.— *The Ethical End and Aim.*

§ 85. "Superadd to the will of one sensitively affected (who would like to lie, because somewhat may be earned by it), the moral law. Then it is as when the experimenter adds an alkali to a solution of muriate of lime: the acid deserts the lime, combines with the alkali, and the earth is precipitated." Most extraordinary Kant!

However interesting such experiments are, we are not like to fall into the belief that morality is valid for man *because* it interests him. On the contrary, it interests solely because of its obvious and odious validity. The kaleidoscopic charm of exhibited virtue were surely insufficient to startle us out of placid resignation to the drift of nature, were not militant autocracy enforced by the native energy of the naked law. The obligation to descend into hell is expressed in the precept "**Know thyself**"; and the man who goes down voluntarily must know well that the precipitous way is the sole (however unwelcome) path of supreme duty. Not until he has thoroughly learned that in his own person unite the roles of Orpheus and Euridice, does he in search of himself valorously explore and with no backward glance immediately reconduct himself up the facilis descensus Averni.

§ 86. This VALOR (fortitudo moralis) is the true ethic strength (§ 53), manifest in the unflinching fulfilment of duty; and KANT acutely remarks that it were not VIRTUE (the strength of man) "unless it were brought forth by the firmness of man's resolution when combatting such mighty withstanding appetites."

As there is in genere but one reason, but one law of reason, and but one freedom (§§ 43, 62, 76), so there can be but one virtue, the strength of resistance to whatever determinator may propel toward injustice. But as the law (in application by means of the ethical schema) directs upon material ends and thereby constitutes particular duties, so it may be said that the one true virtue, thus (in the fulfilment of these duties) applied, becomes different practical virtues, corresponding to the several distinct offices of virtue (particular moral duties, such as not to lie). "To acknowledge several virtues, as we inevitably must, is merely to cogitate different moral objects towards which the will is guided and led by the one and single principle of virtue."

§ 87. He who endeavors to fulfil duty, approves his own conduct pro tanto; and this self-approbation is in itself no slight pleasure. KANT well says that no man can endure to hold himself unworthy of life; and the displacency following upon self-condemnation embitters any pleasure attained by unworthy means (violation of obligations). But he who persists in his worthy endeavor without ceasing, will probably surprise himself (and not infrequently) in the possession of an ethical complacency which is so far superior to self-approbation that it is untranslatable into language; and in this way virtue is truly its own reward, bringing along with it (in terra) a peace (hominibus bonæ voluntatis) which passeth understanding. But this most desirable peace is to be attained by no other means than constant struggle; and he who halts for a moment in his onward march toward virtue, fondly fancying himself already sufficiently virtuous, shall have no peace. To say that virtue is a quality (possessed of degree) is no doubt correct; but to maintain that the essence of virtue consists just in the degree of the quality (in other words, that the possession of a certain quantum of virtue is the essence of moral perfection), is to eradicate the very

notion of morality. To him who should attain moral perfection, the law would be no longer applicable; and so the aim of the law could be no longer commanded and the end of the law no longer indicated. To sum up all in a paradox: virtue is never found but in the seeking, and he who hath her hath her not.*

§ 88. The great extent of the moral law (which must cover every particular act of reason, else it were no law of reason), preventing the possibility of its complete fulfilment by any one agent (though if all agents were honestly to fulfil each his duty, the law must necessarily be fulfilled, no further obedience being possible), in connection with the complexity of the concerns of individual life, occasions indeterminateness of moral obligation. For while it is easy to state certain acts which we must do or omit (as not to steal, to obey just statutes, etc.), there are other duties (as beneficence) no less obligatory, which cannot be extensively determined. For instance, whether we give to the poor so great part of our means that our own family must suffer, or withhold from our hungry neighbor that we may enjoy superfluity, we are equally wrong; but the exact medium cannot be known, and each person must judge each case for himself as justly as possible. It is not lawful to neglect any duty because its extent cannot be accurately known; for the obligation would thereby be violated. The judgment in indeterminate cases must depend upon the maxim which governs the act; and if that maxim is in harmony with the law, the act is right.

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* This is hard doctrine for those transcendent geniuses who if they may not issue upon some absolute end will begin no march; who find it "just as satisfactory to be resigned at the beginning as at the [what?] end" of an endless progress. But it involves no other presupposition than that the law precedes its subject. LEIBNITZ could not endure that form should precede the things themselves and determine their possibility: an objection, says KANT (remarks upon the equivocal nature of the conceptions of reflection), "perfectly correct, if we assume that we intuite things as they are, although with confused representation." But to think that form precedes things-in-themselves is irreconcilable merely with the thought of things uncreate and indeterminable, not repugnant to the understanding. For it is by no means the intuition which gives the permanence (not-beginning) of matter, but the understanding — the same understanding which confesses its own inability to deal in any way with this same permanent matter other than upon the presupposition of law. To annihilate the absolutely necessary presupposition, is to admit the apotheosis of the absolutely limited understanding with which FICHTE logically concludes.

§ 89. The interest of reason in the indeterminateness of moral obligation is inestimable. Although upon first view it would seem preferable that all acts should be morally determinate, yet manifestly if we are to know immediately that an act is right or wrong, we shall probably do or omit it and think no more about it, a procedure which does not so much tend to the exercise and consequent strengthening of virtue. But since we are obliged to use a continuous dialectic as to the morality of our actions, and are unable to conclude with certainty, and can approximately decide only by careful scrutiny of our own motives: it results that the faculty of moral judgment (conscience), developed by constant use, becomes more active and adept and easy of application: and the moral sense is rendered more acute, vastly increasing both the pain which deters from wrong and the pleasure which incites to right. And since virtue is inevitably its own reward, the most refined selfishness might forbid the neglect of any duty, however indeterminate.

§ 90. The facility with which the morality of actions may be evolved by consideration of their maxim is truly surprising. It is not easy to exemplify any rule, because instances are for the most part inadequate: but since we have nowhere attempted a categorical treatise, we have introduced examples without hesitation; and we here subjoin one which occurs: Yesterday we removed a large atlas from our desk. In passing through the office we were interrupted by an associate who inquired "Is the war over?" (the atlas no longer required?) He was answered that we wanted to use the atlas at our room. Conscience immediately condemned that answer; and the judgment was delivered as promptly and as apparently without consideration as the reply itself. But since reason never acts illogically, it is duty to recall by reflection the steps in the logical process which (were not originally omitted, but, being passed over with incalculable rapidity,) concluded in the first instance upon the reply and in the second upon the condemnation. Clearly it will not do to insist on the truth of the reply in the presence of the condemnation; so we must go to the motive again: this time we find that we do not desire to use the atlas at our room more than at the office, our real object being to secure more space

in the desk and to "satisfy the unities" by placing the book in our library. We next inquire into the motive of the lie: here it appears that there were present several gentlemen who might have inferred a wish to put the map out of their reach, a wish which if expressed would have been pronounced "mean." Hence the desire not to be accounted ungenerous prompted an inconsiderate and needless falsehood; and the maxim (to lie rather than seem ungenerous) needs no proof of its unfitness for law universal. No analysis of the lie itself can exhibit its falsity; but the recognition of the maxim instantly justifies the voice of conscience. The humiliation of such an examination is always salutary; for it strengthens the conviction that conscience, however warped, is apt to speak the truth to the attentive ear, and thereby assists to constitute a habit of attention which makes less difficult the performance of duty.

§ 91. But we cannot too emphatically insist that this sort of exploration does in no way increase the obligation of obedience to the law (§ 77). It is only because we cannot escape from the judgment of conscience, that we undertake the self-examination necessary to exhibit the deduction of the judgment. If the judgment were theoretic merely and esteemed invalid, no man would devote an instant to the development of its accordance with the systematic unity of all science (§ 49). Moreover, if the scientific deduction were essential to the validity of the deliverance of conscience, that validity could extend only to those agents who are competent to make the deduction; and he who is by force of hard circumstance prevented from high cultivation of his own rational faculty, might well plead ignorance of the law in avoidance of judgment. And when presently we come to consider the supreme occasion of the law (§§ 14, 96), we shall not be able sufficiently to admire that supreme adaptation of means to ends which admits no defeat and tolerates no avoidance, and which here as elsewhere distinguishes the architectonic character of the natura naturans.

§ 92. The intelligent knows himself merely as presenting a phenomenon to which he gives a law. Finding himself compelled to obey his law, he proceeds in accordance with his phenomenal method of ends to assign his intelligent self

as the end of his supersensible law. But of himself as an end he knows nothing more than the fact of existence. He yields obedience to the force of the pure law, and not to any figurative or abstract end. Himself as end is a pure abstraction, adding nothing to the law, which is an obstinate reality. For himself as end he may have no regard (§ 71): yet will he be unable to break the force of the law (§ 78). But as a doctrine, by the representation of himself as end the selfish man may be able to coact the pure representation of the law, setting over against the solicitations of the carnal man an ethical analogue (as it were) of the material ends of his phenomenal designs.

§ 93. This figurative sequent to the application (by an agent subject to sensuous solicitation) of the pure insensitive law, KANT represents as "an end which is at the same time a duty"; and the co-action which is effected by the adoption of this quasi end into human design, he seems to us to confound with the original spontaneous ACTION of the law (§ 80). "That there must be such an end," says he, "and a categorical imperative corresponding to it, is apparent from this: that were there are free actions there must also be ends whitherwards they tend as their object; and among these ends there must be some whereof it is of the very essence to be duties. For were none such given, then (because no action can be aimless) would every end be only valid in the eye of reason as a means instrumental and conducive toward some further end, and a categorical imperative would be impossible, a position which would overthrow all ethics," which would be very sad, certainly.

§ 94. Now the truth is that the purely insensitive law (§ 54) cannot possibly supply the matter of obligation (an end which is at the same time a duty), and can at furthest only give form to sensible design and direct to the adoption of such ends alone as (and of any ends of will that) are thereto conformable. KANT'S ethical end is merely the necessary schema (§ 59) in and through which the otherwise inconceivable synthesis (of the heterogeneous elements, intelligible holiness and the deflected and sensuously subjected will of the man of flesh and hot blood) becomes possible (and constitutes virtue). To this end (as to any schema) no con-

ceivable matter can be adequate; and while it must be conceded that beneath softer skies it may perhaps (how, when, or where we know not) be possibly an objective end, it cannot by any means be admitted into the essential constitution of the obligation of the supreme law of reason, who tolerates no co-sovereign (§ 46) and resolutely refuses to rest upon any determination of sense, whether body or pure schema, her absolute ideal rule: **sic volo! sic jubeo! sit pro ratione voluntas!**

§ 95. It is true that no action can be aimless. But reason commands to act only because to act is essential to the world of nature, whereof the rational agent is constituent (§ 47): in other words, the merely human reason is a regulative, not a constitutive idea, and her law commands not so much to act, as (since man MUST act) HOW to act (§ 74). If there were no schema, she could not even regulate; and a categorical imperative commanding an end would be impossible, a position which would overthrow all applied ethics.

§ 96. But we understand that the categorical imperative (§ 5) depends upon no commandment of any end (§§ 57, 84) as its warrant and sure ground, but solely upon its position as the inexorable apodict of reason, by which supreme faculty it is moreover unremittingly thrust forward and enforced upon the world. We see also (Chap. IV.) how in and through the rational schema, man, the law is synthetically formulated and directed upon material ends, constituting and subsuming under itself particular offices of virtue: which offices are never adequate to the obligation of the law, and which ends can never enter into that obligation as the ethical end and aim of the law. Our deduction is therefore at an end and complete in so far as it subserves a practical behoof (§ 23); and it remains only to inquire, in order that the demand of reason for absolute completeness (theoretical as well as practical) may be satisfied:—What is the true end and aim of the law? What is the true content of the design which reason apprehends in the conception of her absolute law, which design cannot be abstracted from without destroying the very notion itself of law? And we shall be assisted in this highest speculation of supremest reason by the reflection (upon sure apriori ground) that such an end cannot only be no object in the world and hence no possible end and aim of human

design, but no object at all, and therefore no end and aim of any finite intelligence. Else were it not only inadequate to the law which directs upon it, but insufficient to check the daring progress of reason, which would unhesitatingly pass beyond it in search of that ABSOLUTE UNCONDITIONED upon which alone any determinate finds ultimate rest. What therefore we shall discover is no end and aim of our finite action, which it must be our duty as rational agents to adopt and approach; but such an end and aim as that MERELY TO BEHOLD IT is and ever shall be the complete and absolute occasion for the existence and exhibition of the law.

§ 97. The wondrous fact of morality in all ages and under all circumstances instructs man, who would fain set himself up as the author of a law from which he would fain escape, that so soon and so long as he attempts so to escape must he himself (man the inexorable judge) pronounce upon himself (man the willing culprit) never ending self-condemnation (§ 24), a judgment which neither contains nor threatens any penalty beyond the mere fact itself of its declaration, but under which to remain is itself the supreme penalty of supreme law. No doubt particular violations of material duties are followed by sensible pains and punishments; but these, however difficult to be borne, are utterly inadequate to the bare fact of the judgment, and would by the commonest reason gladly be a thousandfold endured, were it thereby possible to be rid of the terrors of the law itself. It is not to be denied that the material end and practical aim consequent upon the law is the conservation and continual advancement of phenomenal man. But the ethical end and aim of the law, (to which moreover three thousand recorded years of experience and observation have uniformly and irresistibly pointed), ever unconditionally demanded by reason in view of the unconditioned law itself, is the UNCONDITIONED AUTHOR HIMSELF, SEMPER DEUS.*

* It is 3266 years since in Asia the great Pharaoh, RAMESES MEI-AMOUN, in the fifth year of his reign, on the ninth day of the month Epiphi, marching against the insurgent tribes commanded by the prince of Kheta, found his troops driven back in terror before the city Atesh, on the left bank of the river Aranta, and himself for the first time in the face of defeat. To rally and inspire his broken cohorts, he himself in the presence of his army ordered his single chariot into the confederate ranks. "He was alone," relates a historian of his court, "no

§ 98. SCHWEGLER aptly characterizes the Neo-Platonic philosophy as a monism, and thus the most perfect develop-

other near him. And the king had with him neither his princes nor his generals, nor the captains of the archers or of the chariots. And this is what his majesty of the sound and strong life said:

"'What then is the intent of my Father AMMON? Is it a Father who would deny his son? Or have I trusted to my own thoughts? Have I not walked according to Thy word? Has not Thy mouth guided my goings forth, and Thy counsels have they not directed me? Have I not dedicated to Thee magnificent festivals in great number, and have I not filled thy house with my booty? There is building to Thee a dwelling for myriads of years. The whole world is gathering together to dedicate its offerings to Thee. I have enriched thy domain; I have sacrificed to Thee thirty thousand oxen, with all the scent-bearing herbs and choicest perfumes. I have built for Thee upon the sand temples of blocks of stone; and bringing obelisks from Elephantina, I have reared eternal shafts in Thine honor. For Thee the great ships toss upon the deep; they bear to Thee the tribute of the nations. Who will say that like things have been done at any other time? Ignominy to him who resists Thy designs: felicity to him who understands Thee, O AMMON. I invoke Thee, O my Father! I am in the midst of a throng of unknown tribes and I am alone before Thee; no one is with me. My archers and my horsemen deserted me when I called aloud to them; not one among them hearkened to me when I cried to them for help. But I prefer AMMON to thousands of archers, to millions of horsemen, and to myriads of young men arrayed in phalanx. The wiles of men are as nought; AMMON will prevail over them. O SUN, have I not obeyed the order of Thy lips, and Thy counsels have they not guided me? Have I not given glory to Thee, to the ends of the earth?'"

The incident is (said by the French savants to be) commemorated at Luxor, at Ipsamboul, at Beit-el-Wally, in the Rameseum, and at Karnak, upon one of whose walls it is related in extenso. Whether the ALEXANDER of his age actually delivered the invocation in the midst of battle, is not material for the purpose of this illustration; since even the uncritical predetermination to compress Egyptian chronology within the limits of the Mosaic genesis will not find it easy to assign to the record a date within the past three thousand years.*

At the Indian council at Fort Laramie, October 5, 1870, RED CLOUD, hero of eighty-seven battles, with uplifted hands, "in presence of the commissioners and the assembled Indians," who all rose to their feet, "prayed:

"O GREAT SPIRIT, I pray You to look at us: we are Your children, and You placed us first in this land. We pray You to look down on us, so nothing but the truth will be spoken in this council. We don't ask for anything but what is right and just. When You made Your red children, O GREAT SPIRIT, You made them to have mercy upon them. Now we are before You to-day, praying You to look down on us and take pity on Your poor red children. We pray You to have nothing but the truth spoken here. You are the Protector of the people born with bows and arrows as well as the people born with hats and garments;

* The poem of Pen-ta-ur upon the wall at Karnak is greatly disfigured by time; but it is partly preserved in the papyrus of Sallier in the British Museum, and partly restored by the labors of Champollion and other eminent Egyptologists. The reader may consult the Vicomte de Rouge's memoir on "the campaigns of Sesostris," Revue Contemporaire for August, 1856; or F. de Lanaye's "Rameses the Great."

ment of ancient philosophy "in so far as this has striven to carry back the sum of all being to one ultimate ground." (§ 16.)

PLOTINUS, says SCHWEGLER, "has thoroughly striven to think of this first principle [unity] not as first principle, i.e. not in its relation to that of which it is the ground, but only IN-ITSELF, wholly without reference either to us or to anything else. This pure abstraction, however," adds SCHWEGLER, "he could not carry out."

Now this is just such a comment as one would expect from a disciple of HEGEL, to whom even absolute nothing is something to be carried out. It is difficult to avoid the belief that there must be some radically weak point in such great minds, that when they have accompanied reason to her ultimate deliverance (consciousness) and have discovered her ultimate ground (unity*) they must so persistently forget that the consciousness of the ground is no knowledge of the ground, and in itself gives nothing more than bare existence, and must so daringly venture the transcendent saltus which re-

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and I hope we don't pray You in vain. We are poor and ignorant; our forefathers told us we would not be in misery if we would ask for Your assistance. O GREAT SPIRIT, look down on Your red children and take pity on them."

FAYEL, a correspondent who never lies, has particularly described to us the scene upon this occasion. We have carefully collated our copy with the original transcription made by JOHN RICHARDS, to whom and to LEON PALLARDAY (both of whom also heard the original delivery) RED CLOUD for this purpose expressly repeated the invocation. The result of our investigation is the conviction that the prayer is genuine and the transcription correct in general, though not quite literal. The personal character of the chief (one of the noblest of his people) does not concern the present illustration.

GOD always; but when His children are in trouble, they call Him "FATHER."

* This unity is immanent in knowledge and in nature (of which may be knowledge), but it is transcendent in idea; and of it (as transcendent) consciousness declares only that it exists.

In this connection it may be noted that the word "preposited" (§ 16) is not used inadvertently: we do not mean "presupposed," as has been "supposed." The presupposition stands in relation to the supposition, like its hypothesis, and with it would fall. But the unity which is preposited by consciousness is clearly abstract, completely independent, and (unlike consciousness) cannot be annihilated even in thought. And of all the apodictic deliverances of consciousness, this is the most apodictic.

We are not unaware that the words suppose and presuppose are by some used to indicate the proposition and the preposition; but they are so demoralized by the popular use that we would as soon undertake to expound "the idea of

moves them instantly beyond all stay and support (§ 21)—as though having climbed to the very apex of the highest tower in the earth, one may safely leap thence toward heaven.

Neither PLOTINUS nor HEGEL nor any finite intelligent can carry out such pure abstraction. It is enough that the philosopher is permitted to attain to it and to gaze upon its glory. If his soul does not expand in that gaze, expand into utter humility (not humiliation), let him remember that pearls are no fit diet for swine, and get him back to whatever his experience enables him most easily "to carry out."

§ 99. But who, demands PLOTINUS, "could understand the full power [*δύναμις*] of ABSOLUTE UNITY?" (*αὐτοῦ ὁμοῦ*, the one in itself). For if otherwise, he adds, "how could one [*τις*, he, any determinate] differ from the one in itself?"*

Since therefore to know the INFINITE is not possible for the finite (§ 75), the grand old dialectician proceeds to illustrate that ecstatic instant in which as it were by a "flash of rapturous light" the soul becomes conscious of the absolute unknowableness of ABSOLUTE UNITY, as a separation from individual consciousness and an absorption into INFINITE INTELLIGENCE. This is that unparalleled magnificence of conception which the disciple of COMTE is unable to look upon without a sneer at "the vicious circle in which all such reasonings are condemned to move."†

§ 100. PLOTINUS, SPINOZA, KANT—greatest among great names—the last not least—how large a portion of INFINITE LOVE must have blessed these three living, whose neglected

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red" to a Texan bull as to restore their radical significance. Furthermore, they are convenient as degenerate.

* *Τίς ἂν οὖν τὴν δύναμιν αὐτοῦ ἔλοι ὁμοῦ πᾶσαν; εἰ γὰρ ὁμοῦ πᾶσαν, τί ἂν τις αὐτοῦ διαφέροι.* — Enneas V. lib. 5, cap. 10.

† LEWES sarcastically sums up the case thus:

"Axiom: The finite cannot comprehend the INFINITE.

"Problem: How can the finite comprehend the INFINITE?"

"Solution: The finite must BECOME the INFINITE."

Of a truth, ye are the people, and with you wisdom will die!

Now comes one who asks "How does the INFINITE become finite?" and unblushingly explains that "the singleness of the determination sublates the otherness." The spirit of the reply is no doubt very honorable, and far from the superficies of self-styled positivism; but even a logodædalist might reflect that occultation adds nothing to the conception of substance, which last cannot

pages the spirit of INFINITE LOVE so gloriously illumines! The purpose of this brief review and recension of the philosophy of IMMANUEL KANT in reference to its central thought and motive will be fulfilled if it shall induce the reader to take no more Kantian doctrine upon trust, from whatever source, but to study for himself the works of the great thinker who met rationalism upon its own ground and in the interest of religion completely conquered it. SEMPLE exclaims that "the philosophic system of KANT is not a unity, which must be either wholly accepted or entirely rejected: it has a negative and a positive side, really opposed to each other." It is not true. The Kantian system *is* a connected whole and unity, and repays a thousandfold the patient months which bring at the last suddenly along the lines a blaze of light that irradiates and exhibits in new grandeur the whole universe. Happy IMMANUEL! how utterly hast thou entered into that very knowledge (falsely called "mysticism") which consists simply in PERCEIVING that knowledge is firmly rooted in the UNKNOWABLE, that reason declares her hidden source and spring with absolute certainty, that her earliest voice and her latest end and deliverance, speaking alike in the same unknown tongue, manifest to His creatures irrespective of intellectual condition the absolute existence of the ABSOLUTE ONE, the Siniatic I AM WHO AM.*

"I think," says KANT, "that the time will come when the Kantian system may laugh in turn, and with the greater justice, when it beholds the fair but airy castles of its opponents crumble to pieces at its touch, and their defenders taking fright amidst the ruins — a destiny which inevitably awaits them." No less does the same inexorable fate remain for the noble master's false disciples,† whose untruthful exegesis has for more than half a century degraded his title to a

be annihilated by an ideal and outrageously transcendent synthesis of the determinate and ABSOLUTE.

* Not "I am that I am," which is puerile, but "I am Very Existence." See the Vulgate.

† It must not be supposed that we question the sincerity of those who claim to be rationalists of the Kantian school. But however true to themselves, they are utterly false to their master.

term of reproach among men and made the rational method an unendurable stink in the nostrils of virtue. When that time comes (perhaps not in our day, but surely), he who shall be so favored as to stand upon the solid Kantian ground at the outer verge of just human inquiry, shall behold dangling betwixt heaven and earth the baseless feet of them who make haste to lay profane hands upon the very altars of the MOST HIGH GOD.

> There is none like Thee among the gods, O Lord,
> And no works like Thine.
> All nations, which Thou hast made,
> Shall come and bow down before Thee, O Lord,
> And shall give glory to Thy Name.
> For Thou art great, and doest wonders;
> Thou art GOD alone.

THE PERSONAL RELATION OF CHRIST TO THE HUMAN RACE.

By GEORGE N. ABBOTT.

Within the scope of this comprehensive topic the present article will be devoted to the discussion of the following proposition, namely,

Christ's sonship to humanity is a normal and integral relation.

The truth of this proposition supposes on the side of humanity, that, considered in its normal state, it contains some latent principle or incipient germ constituting the rational ground or capacity on its part for a divine progeny. For if the relation in question be an integral one, then is not Christ's divinity in the least excluded from the human sonship; and if the sonship be a normal one, then must there be an original susceptibility for this relation in the proper nature of each party involved.

Again, if Christ's sonship to humanity be a strictly normal relation, then did he not go out of his proper species when he "became flesh"; while, on the other hand, if the relation in question were abnormal, his becoming flesh could be no otherwise regarded than as a transmigration into a lower

species of being. The former alternative, namely, that his human sonship be considered normal and in every sense rational, while at the same time it is admitted that he is divine, brings us then at once to the assumption that there is no *absolute* difference of species between the divine and the human.

Thus much explanatory may serve sufficiently to set forth the general intent of our proposition. The scientific proof of such a proposition ought, in order to suit all the relations of the subject, to be both metaphysical and physical, or ontological and physiological.

In order to pursue our argument after the most feasible method it may be necessary to expand it into the most general form, and to assume as the basis of reasoning the universal relationship necessarily subsisting between normal persons of whatever grade. This universal relationship will embrace within itself all specific normal relations, at least in the germ. The general formula of personal relationship will then constitute the principal *lemma* for the argument in hand. This formula may be given generally thus:

Every normal personality virtually contains the radical principle of every other such personality (whether actual or only normally possible).

In order to render the import of this statement as intelligible as possible, we may vary its form so as to give place to variety in the exponential terms. Using the mathematician's vocabulary, we may give the substance of our formula as follows:

All the individual pure functions of the grand personal unit or idea are implicitly mutual functions of such other.

Again, the language of the formula being, so far as practicable, conformed to that of the naturalist, the same general import may be thus expressed:

Every organically individualized rationality possesses as an essential constitutive element an INCIPIENT GERM *of every other such rationality whose existence is possible in the normal organic development of the rational.*

The truth of these statements is that which lies at the foundation of the ideal harmony of the moral universe.

GENERAL DEMONSTRATION.

It is of course here postulated that there is a certain ultimate or radical constituent in each proper person which forms the ground of *distinct* and permanently *self-identical* personality. Now this ultimate distinguishing principle can be no other than that principle or idea of reason which would have to be grasped in making out a *rationale* (rational solution) of that particular person's being; which principle or idea we may designate by the term *Radix Personæ*. But the ground principle of the rationale of a particular personality must be suggestive of, and in some mode or degree identical with, a universal personal idea comprehensive of a *universal personal rationale:* otherwise the particular rationale in question would be without rule or method; or, in other words, the existence of each individual person would form an entirely independent problem, and the rational conception of each person would be rendered absolutely and unconditionally *sui generis; which is absurd.* Consequently the universal personal idea, or the ultimate reason and seminal principle of the existence of all possible rational individuals, must be in some mode or degree identified with or involved in each *radix personæ.*

Remark.—The special application of what is here proved to the particular case in question will be made in connection with the less rigid yet more specific demonstrations which follow.

ANALOGIC* DEMONSTRATION FROM NUMERICAL UNITY.

To the general demonstration now given may be added an analogic one having especial reference to the second or mathematically stated formula above. It is therein postulated, as is plain to be seen, more distinctly than in the first given formula, that there is a grand unit or personality. In this

* This is called an *analogic* demonstration because there *may be*, as in the case of vegetable structures, actual numbers involved in the personal relations, which *may be different* from the ones suggested below. Since the writing of this essay the following passage from Fichte has been pointed out to the writer:

"*Jedes Individuum ist ein rationales Quadrat einer irrationalem Wurzel, die in der gesammten Geisterwelt ist wiederum rationales Quadrat der* für sie *und ihr universelles Bewusstsein, welches jeder hat und haben kann—irrationalen Wurzel = dem immanenten Lichte oder Gott.*"—Fichte to Schelling, Letter xxvii.

regard, that is taken for granted which it was just now one part of our object to prove.

Beginning, then, with the assumption of a *universal personal unity*, we may attempt to unfold some of the necessary implications of such a unity. Now it must be admitted that every idea which can properly be called a unity involves in some important sense the mathematical unity with its essential properties: otherwise the term *unity* in such a case loses entirely its primitive force. It appears likewise evident that the development of certain functions of the numerical unit ought to bear some specific analogy to the ideal development of any subject to which unity can be ascribed as an essential attribute. Proceeding, then, upon this presumptive analogy, let us seek to discover those simple pure functions of unity which may perhaps illustrate our subject.

In order to obtain the pure functions of any ideal subject, we proceed by the methods of *analysis* and *synthesis*, these being the two poles of all thought. But, in relation to number, *involution* and *evolution* form specific modes of synthesis and analysis.*

Now, making use of involution and evolution, we shall have three general pure functions of unity, including the underived unit as the prime function — namely, *unity* — the n^{th} power of unity and the n^{th} root of unity, or

$$1,\ 1^n,\ 1^{\frac{1}{n}}.\ \dagger$$

Only the last of these three functions admits variety of value, that having in any case one value equal to that of either of the other functions and $n-1$ other values all deducible by a general solution of the equation $x^n = 1$. In order to make a single hypothetical solution, so far as possible, a complete rationale or λόγος of the unit, let us suppose n (the degree of the given equation) equal to infinity, and at the same time a prime number, or, more strictly, *indivisible* by any assignable number except unity.

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* Possibly there may be other modes better adapted to illustrate the subject, but the course here taken is *one* way to show that unity involves the many.

† The more philosophical arrangement would be $1^{n'}$, 1, $1^{\frac{1}{n}}$, or, fully expressed, $\left\{\begin{matrix} 1^{n}, & 1^{0}, & 1^{-1}. \\ \text{Positive,} & \text{Neutral,} & \text{Negative.} \end{matrix}\right.$

The proposed hypothetical solution will then give us out of the general pure function 1^{∞} or $1^{\infty^{-1}}$ an infinite number of particular functions [roots], every one of which has its total significance absorbed in that of the unit, and at the same time, reciprocally, *absorbs by implication the total significance of the unit.*

Besides, one of these coördinately developed ultimate functions will be the *original unit* apparently unchanged, the remaining functions [roots] being essentially infinitesimal powers of of unity.*

The former together with the general functions 1 and 1^{∞} will then give *three equal pure functions of unity.*

In all, then, we shall have three equal functions and an indefinite number of functions coördinate or cognate with one of these three as regards development, but subordinate as regards value,—all these functions in the fullest sense implying each other.

Now, restoring our numerical unit to its place in the personal idea, we have—so far as the analogy will apply—a suggestion of *three primary coëqual persons* and *an indefinite number of secondary persons essentially cognate with one of the primary;* all mutually implying and as it were necessitating each other.

Still further, a *radix personæ* of the primary order involves, according to our analogy, one of the secondary order in an infinite degree; while a *radix personæ* of the secon-

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* The five fifth roots of unity are

$$1.$$
$$\tfrac{1}{4}\left[\sqrt{5}-1+\sqrt{-10-2\sqrt{5}}\right]$$
$$\tfrac{1}{4}\left[\sqrt{5}-1-\sqrt{-10-2\sqrt{5}}\right]$$
$$-\tfrac{1}{4}\left[\sqrt{5}+1-\sqrt{-10+2\sqrt{5}}\right]$$
$$-\tfrac{1}{4}\left[\sqrt{5}+1-\sqrt{-10+2\sqrt{5}}\right]$$

These may serve to illustrate the form and mutual relation of cognate roots of unity of any degree whose index has the nature of a prime number.

The existence of such roots adds significance to the function 1^{∞}, which of course infolds into itself the ultimate involution of all the possible roots of unity.

The *imaginary* character of the roots (except the first) is also significant, their *real value* lying not in themselves but in the parent unit.

dary involves one of the primary order in an infinitesimal degree.*

By a simple substitution of terms which requires no special explanation, our argument from number, so far as applies directly to the subject in hand, may be summed up thus:

While divinity involves humanity in its highest potence, humanity involves [*implies*] *divinity in a minimum degree* [*germinally*].

PHYSIOLOGICAL DEMONSTRATION.

We may here make a transition to the organic law of personal procreation, the substratum of which law we have attempted to give in the last of the three formulæ which were to constitute one and the same *lemma* to our first enunciated proposition. We may commence the proof of that formula by showing that the essential procreative power in each individual of a given organic species is *in idea* a summary of the procreative power of the whole species; in other words, that there is a *tendency* in each individual to produce the species entire, with all its normally arranged and correlated individuals.† Now a species is by definition limited to those individuals which either have or *might have* descended from a single individual or pair (the pair being organically but a polarized unit).‡

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* The *radix personæ* analogous to the unit value of our symbol $1^{\frac{1}{\infty}}$ ought, if the analogy be good, to be regarded as in respect to *real value* standing with the primary order, but in idea (i.e. as the ideal result of an infinite evolution or development) standing with the secondary order. In this view it becomes a true medium [*mediator*] between the two orders.

† Glimpses of a law of universal harmony between the proper individuals of an organic species are discoverable in the structure of a plant which of itself constitutes as it were a species in miniature; the single branches being distinct individuals, the single leaves too having strictly speaking a claim to organic individuality, and finally the millions of constituent cells having and in the last resort [e.g. at the beginning of germ-formation in the incipient seed] exercising the same claim. The branches, when all developed, are found to be arranged according to a geometrico-numerical law, the same law indeed by which the leaves are arranged upon the branches; so that the leaves of a tree, for instance, of a given species, and of a given age or degree of development, are *in theory*, it may almost be said, as the Scripture says of the hairs of our head, "all numbered."

‡ This statement does not preclude the *ideal wholeness* of each component of the pair, as will be seen farther on.

There is, therefore, but one life in the species: and as this life may be wholly in one individual, so it may be wholly in every individual of which the one is the prototype. In other words, the species is brought simply by its definition within the range of application of that general axiom in relation to the dissemination of the organic or vital power in the individual: *the whole is in every part.*

Our formula, indeed, affirms this community of organific potence of the whole order of organized rational being, within which sphere of being must be included the divine Father of spirits (his very *paternity* being exponential of his organic, that is, *living* personality) and all within the circle of his true sonship, divine, angelic, and human.

And as all the individuals regularly descended from the same parent stock are universally reckoned to be of the same species, so is the divine Father with his first-born Son, the *express image of his person*, identified in *species* with numerous secondary progeny of angels and men; these latter [angels and men] differing only, if differing at all except in degree of development, as *varieties* or *races*, mere modifications of the same universal type, and this type the image of God.

If, therefore, the essentially self-procreative life of the species, original in the first All-Father, be, as we have endeavored to show, universally diffused throughout the species in some measure or mode of its [the life's] entireness, then must there be in like manner diffused the correlative All-Sonship *in potentia.* Or, if in this connection we may be allowed the use of a metaphor, the All-Intelligent's first all-expressive *Word* can, as we may reasonably imagine, be echoed or repeated at least faintly by all who share in the universal reason. Again, to put the same conception under an aspect familiar to the naturalist, there cannot be denied to the human race, as a race of the grand rational species, that inherent characteristic of all natural races, *a tendency to return by procreation to the primitive type:* for though in most cases of animal and vegetable races such return may be a long step *downward*, this does not prove that in the case of rational beings there may not be normally an equally strong, if not a stronger, tendency to reproduce the primal type of the rational, though the attainment of such a result

should be by an infinite step *upward*, since the contrast of inclinations thus presented is but the natural contrast between the rational and the irrational.*

If it cannot be assumed that the tendency in question will *independently* eventuate in an actual reversion to the divine Image proper in any single case of human birth, the denial of a right to such assumption is not equivalent to the denial of the fact of such a tendency. A tendency exists in every female to produce young; yet there is required a specific stimulative agency in order to overcome a certain inertia in the germinal organism.

That incipient organism in the female which, if properly fructified, will result in a birth, is called an *ovum;* the male *coefficient* of the *ovum*† is, without doubt, its exact equal in value‡: so we may assume the primitive ovum as the general symbol of the unisexual individual's reproductive capacity, whatever be the order of being.

Now our *lemma*, being regarded as proved, furnishes this important link of argument for our specific proposition with regard to Christ's Human Sonship, namely:

There belongs in the normal constitution of every human being the EQUIVALENT OF AN OVUM DIVINUM.§

In order to see clearly the full force of this statement, it will be needful to consider a little more particularly the relation of the sexual co-factors in procreation. Among some of the single-celled aquatic vegetables the method of propagation is by the *conjugation* or growing together of two cells *not distinguishably different* from each other, the adjacent walls being so removed as to allow the fluid contents of the two cells freely to commingle. In these mingled contents originate the reproductive spore-cells. Here we have doubtless a minimum sexual development, but at the same time an index

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* Nature when elevated by extraneous cultivation *seems* inclined to fall back to its original plane, as the water of the cloud returns to the ocean; but it may be, nevertheless, that in a more comprehensive view it will be found that all nature "groaneth and travaileth" in expectation of results above itself.

† The ovum in the case of persons might then be called the *physiological radix personæ*.

‡ This equality will, directly, be illustrated from a fact in natural history.

§ Comp. Gen. 3: 15. Gen. 22: 18, Gal. 3: 16.

to one of the most important laws in this department, namely, *that the primitive sexual co-factors are essentially equal.*

Again, in the higher forms of vegetation, where the sexual relation of reproductive organs is distinct, the masculine or pollen cell communicates its contents to the prime embryonic cell or vesicle only through two or more membranes—the *actual* communication being probably thus rendered, as it were, *infinitesimal.* The same holds good with respect to the higher animals. "In birds," says one writer on natural history, "the ova exist ready formed in the mother before fecundation; and it is not a rare occurrence to see eggs laid without impregnation similar in every respect to those which produce young." But such ready-formed or primitive ova are by no means peculiar to birds: they belong almost to the whole animal kingdom. They belong, too, to the human race. The difference between the embryo life of birds and that of viviparous animals lies chiefly in the place of incubation—this being in the one case without the mother, in the other case within. But this difference is of so little consequence that of two closely allied species of the batrachian order, one is viviparous and the other oviparous,* the eggs of the latter being fructified *after* their separation from the mother.

The summing up of the evidence under this particular head appears to be *that the feminine factor of generation is substantially a complete germ;* the special office of fecundation being to promote the development of this germ: at the same time there being in this germ, pure and simple, a disposition towards self-development almost, and even in particular cases quite, transcending *absolute* latency; so that in certain ova the process initiatory to embryo-formation has been observed, it is said, actually to commence independently of fecundation.†

The apparent insignificance to which this single view reduces the male factor of generation must be conceived as only apparent, and not as contradicting the law of *equality of the sexual co-factors* just now enunciated.

The organic first principle that the whole is substantially in each essential part here again applies.

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* Vogt, Thierleben, § 215. † *Id.* § 217.

Now, applying these principles within the sphere of ordinary humanity, we should say that a child is both *equally* and *integrally* the offspring of each parent.

Again, if we suppose the human *ovum divinum* in any case to be fecundated according to the Scripture history of Christ's earthly generation, what are we to look for in the result but a *divine Son of man* and a *human Son of God*, not merely one and inseparable, but *one and identical.*

Such an offspring would of course sustain to humanity a *normal and integral sonship.*

Again, this same hypothetical offspring of Deity and humanity would evidently be exponential of a *maximum* relationship between the human and the divine — that relationship, namely, in which the divine and human would be radically and completely identified in the same person.

But the personality of Christ must be exponential of a like maximum relationship, he being the "one Mediator between God and men, the *man* Christ Jesus"; and also "Immanuel, *God* with us," "God manifest in the flesh"—Godhead and manhood *in him* coming to a perfect oneness; and consequently the difference between divinity and humanity being *in him* reduced to nothing.

Hence our *à priori* developed conception of a divine-human person is homogeneous with Christ's actual personality. Therefore we may conclude that Christ is *normally and integrally* "THE SON OF MAN"; or, in other words, that as man he is radically the offspring of an *implication of Deity** inherent in humanity as such, so that even as the Son of man he is divine.

The converse of the last statement, namely, that *as the Son of God he is human*, must also hold good according to the whole tenor of the foregoing argument.

It follows that the *historical* life of Christ as a divine-human person was, philosophically speaking, simply a *true exponent of his essential and eternal nature;* and that there is nothing rationally inconceivable in his frequent appearance in a *human similitude* before his historical incarnation.

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* The rational pole of this implication may be viewed as a kind of *ovum (divinum) rationale* or *latent idea*, which, being divinely fructified, will result in "Christ's being formed in us."

ON PROFESSOR TYNDALL'S RECENT ADDRESS.

By Thomas Davidson.

The recent address of the President of the British Association delivered at Belfast is intended to be a general account of the history and principles of Materialism, whereof Professor Tyndall is one of the most distinguished and certainly one of the most eloquent expounders. In making a few criticisms upon it, I shall not follow those persons who have discussed its bearing upon religion and existing institutions, or its tendency generally, but shall confine myself to questions of historic fact and undeniable philosophic truth.

There was a time in the history of Materialism when its adherents eagerly inquired "*Qui nous délivrera des Grecs et des Romains?*" Now-a-days, *on a changé tout ça*, and Materialism is looking for antiquities, to give it prestige, among the fragments of the early philosophers of Greece and Rome, and dragging from their obscurity such names as Empedokles and Demokritos to set off against those of Plato and Aristotle. Like Dr. Büchner, Professor Tyndall opens his address with a sketch of the history of Materialism,* beginning with Demokritos, and therein takes occasion to speak depreciatingly of those thinkers who have maintained other doctrines, and especially of Aristotle, whom he charges with "what we should consider some of the worst attributes of a modern physical investigator—indistinctness of ideas, confusion of mind, and a confident use of language"—adding that his "errors of detail were grave and numerous."

Taking up first this portion of the Professor's address, let us see whether he, with over two thousand years more of "organically remembered" experiences than Aristotle, be entirely free from those same faults. And first as regards matters of historic detail.

(1.) In speaking of the doctrines of Demokritos, Professor Tyndall says: "The varieties of all things depend upon the varieties of their atoms in number, size, and aggregation." Now, all that we know about this matter, we know, either

* Borrowed, often *verbatim*, from Lange and Draper.

directly or indirectly, through Aristotle; and he is at pains to tell us that, according to Demokritos, the varieties of all things depend upon the varieties of their atoms in figure, aggregation, and position—*ῥυσμός*, *διαθιγή*, *τροπή*—which Aristotle renders into his own terminology by *σχῆμα*, *τάξις*, *θέσις* (Metaph. A. 5).

(2.) A little farther on, we are told: "Empedokles,* a man of more fiery and poetic nature [than Demokritos], introduced the notion of love and hate among his atoms, to account for their combination and separation. Noticing this gap in the doctrine of Demokritos, he struck it with the penetrating thought, linked however with some wild speculation, that it lay in the very nature of those combinations which were suited to their ends (in other words, in harmony with their environment) to maintain themselves, while unfit combinations, having no proper habitat, must rapidly disappear. Thus more than two thousand years ago the doctrine of the 'survival of the fittest,' which in our day, not on the basis of vague conjecture, but of positive knowledge, has been raised to such extraordinary significance, had received at all events partial enunciation." Reading this passage, one would certainly conclude that Empedokles wrote after Demokritos and with a knowledge of the doctrines of the latter. Now, there is not a shadow of proof for either of these assumptions. Empedokles belonged to Agrigentum in Sicily, and was, according to the best authorities, born about B.C. 492, while Demokritos belonged to Abdera in Thrace, and was born about 460. As Empedokles died at the age of sixty, Demokritos could hardly have been more than twenty-eight years old at the time of that event. As he is known to have made long journeys previous to writing his works, it is hardly credible that any of these could have reached Empedokles in Agrigentum. And, indeed, the writings of Empedokles show no traces of the influence of Demokritos: they belong to an older period of thought. There is no trustworthy proof that he propounded a doctrine of atoms at all. His extant fragments lead to the very opposite conclusion. He believed in the existence of four elements, combining and separating

* I have taken the liberty of using, for uniformity's sake, the Greek orthography of Greek proper names.

through the influence of love and hate, which however were not inherent in the elements, but outside and independent of them. Nowhere does Empedokles hint that those combinations of atoms which are suited to their ends maintain themselves, while unfit combinations disappear. He held, that of organisms the plants sprang first from the earth, then the animals. Not, however, whole animals, but separate limbs, which afterwards came together by chance, according as guided by love or hate. In the former case, monsters were produced; in the latter, natural products. It must require a wonderfully "scientific use of the imagination" to find any resemblance between this theory and the modern one of the "survival of the fittest." Thus, in the above quotation, there is not a single correct statement.

Passing over the accounts of Epikouros and Lucretius, which are not above criticism, we come to the following:

(3.) "During the centuries between the first of these three philosophers [Demokritos] and the last, the human intellect was active in other fields than theirs. The Sophists had run through their career. * * * * Pythagoras had made his experiments on the harmonic intervals." Who would read this and not suppose that Pythagoras lived between Demokritos and Lucretius? And yet Pythagoras was dead long before Demokritos (probably even before even Empedokles) was born. He is thought to have been born B.C. 582, which would make him ninety years old at the birth of Empedokles, if he was then alive.

This may suffice to show the accuracy of Prof. Tyndall's acquaintance with those pre-Aristotelian philosophers whose views he sympathizes with and considers the forerunners of his own. I doubt whether his errors of detail be not grave nd numerous, and whether he be not fairly chargeable with "indistinctness of ideas, confusion of mind, and a confident use of language." But these faults become even more prominent when he comes to speak of Aristotle, with whom he does not sympathize, but whom he treats very much as George Henry Lewes does.

(4.) Prof. Tyndall tells us that "Aristotle put words in the place of things,* subject in the place of object."† It is

* Cf. Whewell, *Hist. of Inductive Sciences*, vol. i. p. 67.

† Cf. Lewes, *Aristotle*, p. 238.

curious to compare the former of these assertions with one of Prof. Steinthal's (*Gesch. der Sprachwissenschaft bei den Griechen und Römern*, pp. 197 sqq.): "From what has been said, we see that it is not notions or words that, acccording to Aristotle, are spoken, but objects. The object *animal* is said of the whole object *horse* (i.e. of course, of every horse)." Both assertions are equally untrue. Aristotle distinguishes perfectly well, not only between words and things, but between words and thoughts. In the first chapter of the work *On Interpretation*, we read: "The modifications of the voice are the symbols of modifications in the soul, and written characters are symbols of the modifications of the voice. And as all peoples have not the same written characters, so all have not the same articulate sounds, whereas the corresponding modifications of the soul and the external facts which these represent are the same for all." As to the second assertion, that Aristotle put subject in the place of object; if we persist in translating Aristotle's word for *subject* (ὑποκείμενον) by *object*, that is our fault, not his. The present use of the words *subject* and *object* came in with Kant and Fichte. Trendelenburg, *Elementa Logicæ Aristoteleæ*, p. 55, note, says: "Apud Germanos, Kantio potissimum et Fichtio auctoribus, horum verborum *usus plane inversus est*." To-day we follow the German usage.

(5) Prof. Tyndall proceeds: "He [Aristotle] preached induction without practising it." This statement is borrowed from Lewes' *Aristotle*, p. 113. It is untrue notwithstanding, as any one acquainted with Aristotle's *Logic*, which rests entirely upon induction, well knows. It is true that Aristotle makes hasty and incorrect inductions; but in this respect Bacon, the falsely reputed father of induction, was even inferior to him. Lewes, *ut sup.*, says: "Bacon did not attack the Method which Aristotle *taught;* indeed he was very imperfectly acquainted with it." * * * "It is to these causes that Bacon's failure must be ascribed; for, grandly as he traces the various streams of error to their sources, he is himself borne along by these very streams whenever he quits the position of a critic and attempts to investigate the order of nature for himself."*

* Compare the articles on Bacon by Baron Liebig in *Macmillan's Magazine*.

(6.) We are next told that Aristotle's "notions of matter were entirely unphysical,† * * * no real mechanical conception regarding it lying at the bottom of his mind." I don't know precisely what is here meant by "mechanical conception," having always thought that the notion of motion lay at the basis of all mechanical conceptions, instead of *vice versâ;* but Alexander von Humboldt says: "Natural Philosophy deals with the general properties of matter; it is an abstraction from the manifestations of force in matter; and even where the basis of it was first laid, in the eight books of Aristotle's *Physical Discourses*, all the phenomena of nature are represented as the moving vital activity of a universal force." And he adds in a note: "All the changes in the condition of the physical world (*Körperwelt*) are reduced to *motion*—Aristot. *Phys. Ausc.* I. 1, 4." It is, indeed, hard to see how the notion of motion could have been "unphysical." But Whewell — from whose *History of the Inductive Sciences*, coupled with Lewes' work on *Aristotle*, Tyndall borrows pretty nearly all he knows about the Stagirite — is partly to blame for this misrepresentation.

(7.) We are next informed that Aristotle "affirmed that a vacuum could not exist, and proved that if it did exist motion in it would be impossible." And yet, a little farther on, Tyndall accuses Aristotle of saying that "there is an empty space, not at the front, but at the back of every man's head."‡ Now, if an empty space be not a vacuum (the Aristotelian term, κενόν, is the same in both cases), I do not know what it is. The fact is that Aristotle attempted to prove, and did prove, that an *independent, self-existing vacuum* (χωριστὸν κενόν) could not exist; i.e., that *vacuum* is merely a relative term opposed to *full*. But even had Aristotle tried to prove the other, I apprehend Professor Tyndall would have had some difficulty in refuting him. In his *Light and Electricity* (§ 218), speaking of Luminiferous ether, he says: "It fills space; it surrounds the atoms of bodies; it extends, without solution of continuity, through the humors of the eye." It would be interesting to know where Prof. Tyndall, with this belief, ever found a vacuum, or how he knows that, if it did exist, motion in it would be possible.

† Cf. Whewell, *ut sup.*, p. 68.

‡ Lewes' *Aristotle*, p. 166.

(8.) As one of Aristotle's grave and numerous errors in matters of detail, we are told that "he affirmed that only in man we had the beating of the heart." Now, Aristotle does not affirm anything of the kind. What he does say, in a very modest way, is this: "It has been incorrectly affirmed that the lungs contributed to the fluttering (ἅλωις) of the heart; this fluttering, *generally speaking*, takes place in man only, because he alone is affected by hope and expectation." (*On the Parts of Animals*, Book III. chap. vi.) In the 20th chapter of his work *On Respiration*, he is extremely careful to distinguish between beating (σφυγμός) and fluttering or leaping (ἅλσεις, πήδησις).

(9.) A little farther on, we are assured that Aristotle "refers the ascent of water in a pump to Nature's abhorrence of a vacuum." Now, not to mention the fact that suction-pumps were not invented till long after the time of Aristotle, we venture to say that no such assertion occurs, even impliedly, in any of the works of Aristotle. Prof. Tyndall is here borrowing, and borrowing incorrectly, from Whewell (*Inductive Sciences*, vol. i. pp. 346 sqq.), who says: "Yet the effects of these causes were so numerous and so obvious, that the *Aristotelians* had been obliged to invent a principle to account for them; namely, 'Nature's Horror of a Vacuum.'" This is, I believe, the correct statement.

Perhaps enough has been said to give an idea of Professor Tyndall's knowledge of the history of philosophy and the development of human thought, as well as of his scientific habit of verifying his conclusions. But, if he is a mere tyro in the external history of philosophy, he is something worse in philosophy itself. Knowing no hierarchy in thought, he proceeds to solve the Universe with what he calls *Vorstellungen*, and, of course, finds himself helpless. He finds in matter "the promise and potency of every form of life." But, then, the existence of matter is a pure assumption, a metaphysical hypothesis, utterly incapable of being verified by experiment. It is conceived to exist in the external world; but the external world is, as Mill says, "the great battle-ground of metaphysics." Worse than this, it is the lost battle-ground of physics, which cannot venture on it at all. Prof. Tyndall wisely refrains from telling us what he thinks

about its existence, and contents himself with imparting to to us Mr. Spencer's method of cutting the Gordian knot, leaving us to suppose that he adopts the same. He says:

"With him [Spencer], as with the uneducated man, there is no doubt or question as to the existence of an external world. But he differs from the uneducated, who think that the world really *is* what consciousness represents it to be. Our states of consciousness are mere *symbols* of an outside entity which produces them and determines the order of their succession, but the real nature of which we can never know. In fact, the whole process of evolution is the manifestation of a Power absolutely inscrutable to the human intellect. As little as in the days of Job [cf. Renan, *Livre de Job*, Introduc. pp. 87 sqq.] can man, by searching, find this Power out. Considered fundamentally, it is by the operation of an insoluble mystery that life is evolved, species differentiated, and mind unfolded, from their prepotent elements in the immeasurable past. There is, you will observe, no very rank materialism here."

Indeed there is not. Having rejected Aristotle and Metaphysics and gone back to Demokritos with his atoms, he, of course, arrives at chaos, and the only way he can escape from that is by leaping on the back of "an insoluble mystery." How does Mr. Spencer or Prof. Tyndall happen to be so well acquainted with this mystery as to know that it is insoluble? With what solvents has he ever experimented upon it? Aristotle, seeing plainly that with a material cause only, endow it how you may, a world could not be constructed, recognized a triunity of causes besides matter, viz. formal, efficient and final causes, and tried to develope the notions of them in the profoundest of his works. He steadily disbelieved in all insoluble mysteries, and bravely went to work to solve them. His three causes are no less capable of external verification than is matter, which he admits to be, *by itself*, unknowable.* This is admitted even by Lewes (*Aristotle*, p. 119). Now, on what ground do Spencer and Tyndall assume a material cause and reject all others, or relegate them to the region of mystery? That there are form, harmony and adaptation in the world as truly as there is matter, and that the former need explanation as much as does the latter, is sufficiently

* This need not be quoted as showing that Aristotle believed in insoluble mysteries.

evident. It is admitted that the promising, potent matter explains nothing, and yet it is assumed and eked out with an insoluble mystery. One mystery assumed as knowable, all else rejected as unknowable!

For example, it is assumed by Mr. Spencer that "our states of consciousness are mere symbols of an outside entity which produces them and determines the order of their succession, but the real nature of which we can never know." That is, our states of consciousness are symbols, but symbols of such a kind that they give us no information regarding the nature of the entity symbolized. Of course, then, we can have no knowledge repecting it. Notwithstanding this, Mr. Spencer appears to know a good deal about it. First, he knows that it is outside of us; second, that it is endowed with active powers; for, third, he knows that it is capable of producing symbols in us, and, fourth, he knows that it is capable of regulating the succession of the same. It would be interesting to know where he obtained all this information, and what more he thinks it would be desirable to know. Perhaps he would like to be able to form a *Vorstellung* of it; that is, to form a sensuous concept of it, just as Mr. Tyndall thinks he can form a "mechanical conception" of motion. But what if this "outside entity" were of such a nature as to be utterly beyond the reach of sensuous or mechanical conception? should we then be condemned to remain forever in ignorance of it? This, undoubtedly, is the theory arbitrarily maintained and unceasingly reiterated by Spencer and those who blindly follow his lead. "*Nihil est in intellectu quod non prius fuerit in sensu*"; and if we add "*nisi intellectus ipse*," they tell us that mind, too, is evolved from the prepotent elements of matter by the same inscrutable Power. But as matter by itself explains nothing, and that which we imagine to be the cause of everything is inscrutable, we know nothing of the real nature of anything. All that we know is symbols, which, we suppose, symbolize an outside entity, but in such a way as to give us no information as to its real nature.

It is easy enough to see what lies at the bottom of all this confusion, self-stultification, and self-confessed helplessness. The men who hold these views are in culpable ignorance of the history of the development of thought as well as of the

distinctions and limits in thought itself. With no preparation other than the perusal of a few compends and superficial treatises, and with no better implements than the *Vorstellungen* of the most naïve and confident common sense, they undertake to deal with the most difficult and momentous of problems, and, of course, come out with the confidently expressed result that these problems are insoluble. The assumption of matter and atoms is what the *Vorstellungskraft*, from its very nature, drives them to, and of that assumption they will never be able to rid themselves until they ascend to higher ground and are able thence to survey and explain their *Vorstellungen*. When they have done that, they will be driven to examine and define other causes in the Universe besides matter, and may then find their inscrutable mystery solved. The great fault of these men is their attitude of ignorant superciliousness toward the past, coupled with intellectual sluggishness and a confident use of undefined terms.

There are, however, not wanting signs to indicate that the days of supercilious ignorance and sluggishness are drawing to a close. It is almost amusing to hear George Henry Lewes, one of the most brilliant and superficial of the decriers of metaphysics, declare, in his last book, *Problems of Life and Mind*, that "the continuance of metaphysical inquiry is, for the present, inevitable." He was apparently brought to this sudden change of view by the example of J. S. Mill, who says: "England's thinkers are again beginning to see what they had only temporarily forgotten, that the difficulties of Metaphysics lie at the root of all science; that these difficulties can only be quieted by being resolved, and that until they are resolved, positively whenever possible, but at any rate negatively, we are never assured that any knowledge, even physical, stands on solid foundations." Such language is hopeful, and shows that the human mind can never be made to rest satisfied with the recognition of insoluble problems. Indeed the acceptance of insoluble mystery in regard to all things that have any real interest or value, leaves an open door for all the forms of superstition that debase and corrupt. It was the recognition of insoluble mystery introduced by Christianity, far more than the Chris-

tian system itself, that produced that stagnation and degeneration of the European mind which Prof. Tyndall so bitterly and so justly laments. And there are not wanting indications that to-day the same cause would produce the same result. Mr. Alfred R. Wallace, whose reputation as a naturalist is almost equal to that of Darwin, and who is almost as much entitled to be called the discoverer of the Darwinian theory as Darwin himself, has come to be a believer in Spiritualism on grounds entirely illogical. As Dr. Carpenter (*Principles of Mental Physiology*, p. 627) says: "Such men seem totally oblivious of the difference between *external* and *internal* evidence—the testimony of our *senses* (or those of other individuals) and that of our *sense*." And this, though the most remarkable, is not a solitary instance. While, therefore, I entirely sympathize with Prof. Tyndall in his manly and determined opposition to dogma and authority, and in his demand for the free and unprejudiced discussion of all questions, I cannot but be sorry that he has diminished the weight of his own authority, and thus injured a cause which is that of all earnest truth-seekers, by trying to draw conclusions in regions of thought where he is an entire stranger, and by being thus entrapped into making a display of carelessness in regard to matters of fact and of incapacity to grasp philosophic truth.

NOTES AND DISCUSSIONS.

*Professor Tyndall's Address.**

The recent "Inaugural Address before the British Association" by Professor Tyndall, in which he has taken occasion to define his attitude toward the current theories of the source of all phenomena, has excited interest on all hands. His bold statement regarding the potency of matter to produce every form and quality of life is a challenge to all thinkers who hold to the supremacy of Personality as the first principle of the Universe, particularly that portion of the address in which the Professor follows closely the Spencerian version of the doctrine of the Unknowable. Before all things, the writer on these subjects should be acquainted with the history of human thinking. Such acquaintance presupposes in one's self, however, the ability to think, for no one can recognize thought in another unless he rethinks the thought himself. Those who cannot solve the antinomies of reflection are necessa-

* Reprinted in Appleton's *Popular Science Monthly* for October, 1874.

rily unable to give a coherent account of the doctrines of a philosopher who writes on a plane which presupposes such solution. Sir Wm. Hamilton's celebrated *Critique of Cousin* sets up the systems which claim a doctrine of the Absolute in a manner that makes them ludicrous and absurd to those who do not know the doctrines at first hand. The one who has studied those systems, however, sees that the absurdity lies in the mind of Hamilton, which has failed to grasp essential outlines. In Mr. Davidson's article on *Tyndall*, published in this number, the reader will find evidence of the carelessness with which the history of philosophy is treated by Mr. Tyndall. In this respect Herbert Spencer is quite as open to criticism. His *First Principles* rest on an uncritical adoption of Kantianism, apparently at second or third hand, through some disciple of Sir Wm. Hamilton. He has learned a little of the doctrine of antinomies, and uses that doctrine to prove that we cannot know spiritual verities. Afterwards, in the same book, he ignores the same doctrine, and in the face of it undertakes to prove physical laws *à priori* by an uncritical use of the elements of the antinomies. For instance, he proves that Matter is indestructible because we cannot think its annihilation; that Force is persistent for the same reason. Unthinkableness is here a valid ground for deciding upon the existence of objective realities. But earlier in his book he uses the same thesis negatively, after the style of Kant (*First Prin.*, p. 31): "Self-Existence necessarily means existence without a beginning; and to form a conception of self-existence is to form a conception of existence without a beginning. Now, by no mental effort can we do this; and to conceive existence through infinite past time implies the conception of infinite past time, which is an impossibility." To have been consistent, he should have used the same argument regarding correlation, indestructibility, &c., thus (*Jour. Spec. Phil.*, vol. i. p. 16): "Indestructibility implies existence through infinite future time, but by no mental effort can infinite time be conceived. Hence the indestructibility of matter is 'an untenable hypothesis,' and is only 'verbally intelligible.' So, too, with the 'Persistence of Force,' which involves the same unthinkable elements." *

Freedom of thinking is essential to philosophizing. Thought must be free, untrammelled not only by dogma or tradition, but also by the limitations of sensuous perception or the categories of reflection. Its first freedom is from the dogma, and in this freedom Tyndall and the Spencerians rejoice. But this is only formal freedom; it is not real, substantial: only the cognition of truth can give real, substantial freedom. A balancing of the mind between two sides of an antinomy is a paralysis of skepticism. The freedom from sensuous perception is gradually being achieved by the Spencerians and Comtians through a growing insight into the universal processes or potencies that underlie the phenomenal world (in such doctrines as the correlation of forces, evolution from the abstract to the concrete, &c.) Now, however, there remains the third freedom—the freedom

* In a recent number of the New York *World* (August), the editor has undertaken to refute this position. His argument rests on a distinction between existence and self-existence, a distinction which has no bearing in this argument for the reason that the latter turns on the thinkableness of annihilation, which is the same whether applied to existence, or self-existence, or force.

from the stand-point of fatalism, which results from the nature of our Reflection. The stand-point of absolute personality, as the highest principle, is the one to be attained. On this plane, freedom, immortality, and God, are the regulative principles of science as well as of life, and they are not only matters of faith but equally matters of indubitable scientific certainty.

The remarks of Rev. F. E. Abbott, editor of the (Boston) *Index*, are so pertinent and just regarding these positions of Tyndall, that we quote them here (*The Index*, Sept. 17, 1874). EDITOR.

BY F. E. ABBOTT.

"Following Herbert Spencer with a fidelity to which that philosopher is by no means entitled, although his merits in many respects are indubitably great, Professor Tyndall settles down into the recognition of an "insoluble mystery" as the last word of modern science. 'In fact, the whole process of evolution,' he says, in an exposition of Spencer's thought which he apparently gives as also his own, 'is the *manifestation of a Power absolutely inscrutable to the intellect of man.*' Are we, then, shut down to the submissive acknowledgment that evolution is the manifestation of a Power which does not manifest itself? If so, science is degraded to the rank of the theological cosmogonies which Professor Tyndall so energetically repudiates, and the human intellect is driven to the *hara-kari* of a new sacred contradiction, which it must accept by a new species of 'faith.' For one, we repudiate such science as we repudiate the theology of which it is the bastard offspring. Science that deserves the name will refuse to admit the existence of any 'insoluble mystery.' She must, by the very law of her being, assume that every mystery is soluble, and forthwith proceed to solve it. She recognizes the co-existence of the known and the unknown, and admits that the latter is probably vaster, nay, inconceivably vaster, than the former —an admission she justifies solely on the ground of her own past experience; but she cannot possibly recognize the existence of the 'unknowable,' since even to affirm it would be to affirm some knowledge of it. The 'Power' which manifests itself in 'the whole process of evolution' *manifests itself*, does it not? It cannot, then, be 'inscrutable to the intellect of man.' The business of science is *to study the manifestation of it*, and not to cut her own throat by the confession that the 'manifestation' of anything under heaven is 'inscrutable' to her. The unutterable shallowness of this Spencerian philosophy of the 'unknowable,' now so fashionable, is the intellectual disgrace of the century. It makes a quasi-God out of 'the unknowable' by printing its name with a big U as 'the Unknowable'; it sets aside 'theism, pantheism, and atheism,' as equally untenable, notwithstanding the fact that, by the law of contradiction, either theism or atheism must be true (pantheism being merely one form of theism); and so it contrives to cheat its deluded followers into believing that philosophy sits between yes and no on the little end of nothing whittled down to a point. It is enough to make every thinker blush with shame to see philosophy so villainously impaled. Most certainly the humiliating spectacle will be a brief one. Compared with this farce of a philosophy, straight-out atheism is infinitely respectable. The issue raised by modern scientific reflection is a serious

and honest one; does God exist or not? The answer must be as honest as the question: yes or no. Science herself must give the answer, for science herself propounds the question; and, as our readers already understand, we believe her answer will be yes. That is the true state of the case; and we are sorry to see Professor Tyndall helping to confuse the public mind still further by reiterating Herbert Spencer's meaningless jargon on the subject. There is no religion in ignorance; but there is religion in a knowledge that seeks to lessen its own ignorance. There is no religion in mystification, or in the apotheosis of 'insoluble mystery'; but there is religion in the modest recognition of a mystery which we are here to solve, and thereby to convert into known and nutritious truth. That we shall solve it all, least of all in our own day, is not to be expected; but to give up the attempt to solve it on the plea that it is insoluble, is to bury our talent in the earth because we know that we have a hard master.

"For one, we refuse to juggle, or be juggled with, by this empty gibberish of 'the unknowable' or 'the inscrutable.' The 'Power' which confessedly manifests itself in the process of evolution is not only to be studied but known in and through its manifestations or effects; that is, in and through the grand order of Nature, the adaptation of part to part in the organic and limitless whole, the eternal series of sequences according to law by which it has been developed. Admitting that but an 'infinitesimal span' of the wondrous 'cosmical life' is as yet known to us, science has already taught us to seek its explanation in one omnipresent cause. If we consider this one cause to be matter, even in Professor Tyndall's enlarged use of the word, we are defeated in the search for real unity, which is excluded by his illimitable multitude of self-subsistent molecules; we can find it only in such a philosophy of atoms as shall show them to be indeed 'manifestations' of a unitary energy or 'Power.' That is, the way out of Tyndall's imperfect materialism is clear through it into a philosophy which may be called materialistic or spiritualistic as you please, yet which shall recognize the infinite 'cosmical life' as embracing our little human life, not as an alien thing, but as part and parcel of itself. What we require is a more radical treatment of science itself, sure that such a treatment will leave abundant room for every sentiment that now ennobles man, without imposing on him the dire necessity of pouring contempt upon his own 'understanding,' or of narrowing religion down to a mere emotion or feeling, as Professor Tyndall does."

The Immortality of the Historic Individual.

In the last number of this journal Professor Smith continues the discussion of the question of immortality. The difficulty to be decided relates to the idea of Universality.

What can one mean by "historic individual" except the individual *I* or *he* who remembers that he has a distinct past history, in which he has reacted against persons and circumstances, and created his own self and belongings by the act of his WILL, and is now conscious that he is product of his will as producer? His will produces by his own act the universality

which is attributed to man. By the act of negating his particular, special, individual peculiarities he makes himself not an *abstract* universal but a concrete universal, one which is individual as well as universal. For, does it not sustain its phase of universality by the act of its will in negating or abstracting, and is not this act always a special one, a purely individual act? Were this annulment of the special, by means of the activity which is individual, to cease, there would remain neither abstract universal nor individual, but zero. The mistake consists in seizing an abstract *caput mortuum* for the universal instead of a *concrete process*. What I mean by concrete process is a process of self-determination wherein the negative unity which acts is the subject of the act, and freely produces in itself all its multiplicity and dissolves any particular phase of the same at will. It cannot dissolve the total sphere of particularity at once, it is true; for the act of such annulment is itself a particular one, and hence creates what it attempts to destroy. Otherwise the self-relation of the negative act could annul or destroy the subject and thus end its being in a vacuity, like the abstract unity which is the result of the "absorption theory." The ego is always subject-object and hence dual in its unity. Since both sides are the same—the self as subject and the same self as object—we have a concrete unity; and since its knowing is always an acting, we have the existence of the ego an eternal process.

The following communication, received from Mr. Kroeger, continues the same subject. EDITOR.

Mr. Editor:—In the July number of the *Jour. Spec. Philosophy*, Mr. B. C. Smith, referring to an article of mine on the subject of immortality, and, summing up his objections to it, takes occasion to say: "Mr. Kroeger, it seems to me, instead of proving our immortality, has, if anything, proven our immortal immorality." This hits the nail on the head, and seems to me, indeed, too self-evident to need much proof. If any finite being is immortal, i.e. continues to lead a self-conscious life throughout all time, it necessarily remains always more or less immoral, because it remains finite. Were it to lose its finite character, it would become God or be submerged in the Godhead, &c.; all of which suppositions are absurd, for the immortality which inheres in all *res singulares sub specie æternitatis conceptæ* is not in any sense of the word what people mean when they want to know whether they are immortal. Tom does not care a fig whether he will ever be "conscious of being identical with the Absolute," but he is very anxious to know whether he will be forever conscious of being and having been Tom. It seems strange that those who still discuss the subject of immortality always lose sight of this fact.

It does seem somewhat plausible that the moral world would be no more disturbed by my departure from it than it was by my advent into it, as Mr. Smith suggests; but the reason of the difference is precisely because "the moral world is not the world of time," to use Mr. Smith's own words in the same sentence wherein he seems to charge me with presumption in holding that the moral world cannot get along without me. Really, I think it cannot get along without him either. A. E. KROEGER.

Dr. Brinton on Life Force and Soul.

In the "Medical and Surgical Reporter" (Philadelphia) for September 6, 1873, is to be found an editorial on modern Psychology which reviews concisely the attitude of the physiological school toward the spiritual doctrine of the soul, and especially toward that of free-will. In the number for October 11, 1873, a book notice of Garretson's "Thinkers and Thinking" furnishes occasion for some acute strictures bearing upon the two opposed schools—the positivists and the abstract idealists.

In the same journal (*Medical and Surgical Reporter*) for Nov. 1, 1873, the editor, Dr. Brinton, offered some valuable suggestions on the definition of life, criticising the attempts of Bastian, Bichat, Whewell, Spencer, De Candolle, and Cuvier. That of the last named he prefers to those of the others—"Life is that condition of Being in which the form is more essential than the matter," and proceeds to remark upon this definition:

"This, we take it, contains in abstract language the gist of the distinction between organic and inorganic nature.

"The value of a definition in inductive science, we have said, is to point out the path for future investigation. And, in the one we have just given, that object is prominently held in view. The science of Biology concerns itself beyond all else, with functions, combined in a *unity of purpose*, acting under varying conditions. This unity of purpose is the maintenance of the individual, as bounded and circumscribed by definite confines, or by defined *form*.

"Again, the whole science of Morphology is based on the idea of metamorphosed and developed symmetry of *form;* the matter is continuously and rapidly changing, it is in a whirling eddy or vortex (*tourbillon*), but the type, the form, is always retained in one or another of its metamorphoses. Although composed chiefly of such unstable elements as oxygen, hydrogen, and nitrogen, so long as life lasts, fidelity to form is the guiding principle of organic beings.

"There is even a higher application of this definition, lying, it is true, out of the boundaries of exact science, but we may, perhaps, be pardoned for referring to it. As those most airy and intangible elements are attached to fixed forms of symmetry and individual existence by Life, so the still less material elements of Thought may be chained to even more inflexible forms of personal existence when visible life ceases, and thus the words of the poet prove true:

> "'Eternal Form shall still divide
> Eternal Soul from all beside,
> And I shall know him when we meet.'
>
> *Tennyson, In Memoriam.*"

In the next number (Nov. 8, 1873) Dr. Brinton discusses "The Ultimate of Science," and criticises acutely the various theories regarding force. He speaks of James Croll's views against Bain:

"The Determination (i.e. the direction, regulation, or application) of motion is something very different from its Production. If Force guides itself, by virtue of *what* does it do so? Energy cannot direct energy. The

determination of molecular motion is something else than the laws of that motion. They are merely the results of observed sequences; they are not regulative; or if regulative, then they mean something very different from an empirical law. *Form* can never be the product of forces; it is not their result, but the result of the *way* in which they are applied, the effect not of the forces but of that guiding or directing power which rests behind them (*London Philosophical Magazine*, July, 1872, pp. 5–25). He (Croll) and those with him insist that the Law of Causation can never offer a completely satisfactory explanation to the human mind. No matter how far up it is carried, no matter how supreme and universal the generalization reached, the mind cannot help still inquiring for yet another proximate cause. This Professor Bain pronounces to be inept; 'the limits of Explanation are the limits of Induction' is his dictum, and, true as it is, it is not the whit more satisfactory for all that; and no matter how many logicians sustain it, the mind itself will not.

"And why not?

"Because there is a wider, a more comprehensive truth, which decrees that no explanation dependent on the physical laws of causality can satisfy the thinking faculties; that they require, that they incessantly and increasingly demand, the ultimate reference of every law of phenomena to a law of Intelligence. Derided and despised as this instinctive longing may be, it will remain still importunate and clamorous until it is recognized, listened to, respected, yes, honored, and at last assigned its just position as the truest and grandest instinct of man's nature."

Dr. Brinton continued his philosophic discussions in the numbers of his journal for Nov. 15, Nov. 22 and Nov. 29, 1873, treating of "Soul in Terms of Science," "Laws Common to Mind and Matter," &c. On the former question he remarks:

"No branch of scientific inquiry has been more devotedly studied in the last ten years than the physiology of the senses. In Germany, especially, it has been pursued with unflagging ardor, and the researches of Fechner, Helmholtz, Hering, Wundt, and a score of others, are known, at least by hearsay, to every student. The half-confessed motive which has prompted these extraordinary labors has been the hope of throwing some light on the nature of man's thinking faculties, his mind or his soul. What the result has been it is our purpose now to lay before our readers in as brief a form as possible.

"The theory of the correlation of forces, reduced to a definite form by Helmholtz, Mayer, and Grove (about 1847–1850), while very fruitful for a while, has proved itself insufficient in the higher walks of science, and may now be said to have been expanded into the theory of the metamorphosis or propagation of *motion*. There is no such thing as a force; motion passing from one form to another displays what we *call* a Force. Considered broadly, matter has neither properties nor forces; for no such entities can be conceded to exist, but only *action*, repulsive or attractive. Motion, once more, is ending; what was once called *latent* force, or matter at rest, has been defined as *constitutive* motion, as opposed to *regulative* motion, which

embraces all dynamical conditions. Strictly, as we mentioned last week, force is neither motion nor action, but the intensity of action, expressed in terms of motion, either dynamically by the space passed over, or statically by pressure exerted.—"Such are the principles to guide us in the study of soul. Is this essence a measure of motion (as other so-called forces), or is it something entirely different? That is the question.

"An apparently unconquerable dilemma meets us at the very start. All motion *must* be in space. Yet thought is distinctly *not* in space. Space is a form of perception, and no possible common measure of thought and space can even be imagined. Therefore thought cannot be motion. This is the first horn of the dilemma.

"But again, all mental and physical force expended being exactly equal to the force in the form of nutriment received, clearly the mind, if there is any such independent thing, contributes *no* force at all; it cannot and it does not act on ponderable matter, and never gives added power. This is demonstrable, and is the other horn of the dilemma."

On the latter question he remarks:

"In the last few numbers of this journal we have explained the modern doctrines of Life, of Force, and of Soul. It remains, in order to complete the survey of this recondite province of physiological science which we have been exploring, to examine somewhat more attentively that community of laws which we found at the conclusion of our last article to constitute the real bond of unity between Thought and Matter, or, to phrase it differently, between Mind and body.

"Two eminent English authors, Professor Bain and Dr. Maudsley, have each written, the last year, a work on this very topic, and each has advocated closely similar views. These, in the case of the former, defend, to use his own words, 'a guarded Materialism,' and in the case of the latter a Materialism that can hardly be called guarded. In spite of the high reputation of these teachers, and the solid worth of much of their writings, few who are versed in the literature of psychology will accept their theories as adequate. It is not our purpose to point out their shortcomings, but merely to warn our readers, that, while they are good authorities as far as they go, they fail to grasp, or perhaps they avoid, the subtlest points of the inquiry.

"Taking their works as fair expositions of the ascertained and the suspected physiological bases of Life and Thought, we shall briefly adduce some of the laws common to thought and extended substance, in order to indicate the path of investigation in this direction.

"First, what is the true mental correlate of the physical fact of *Life?* This is the first and broadest question. We have defined *life* to be a certain condition of material Being. What immaterial, unextended mental fact is its universal associate, its inseparable correlate?

"No one can hesitate a moment to acknowledge that this correlate is *Feeling*, the sentient faculty. This is exclusively confined to living beings, and is co-extensive with them, in the vegetable as well as in the animal world. But can we not define still more closely this correlate? There can

be no reasonable doubt but that we can and must. Not Feeling alone, but *pleasurable feeling*, as opposed to *painful feeling*, is the true mental correlate of Life.

"This is a most momentous and far-reaching conclusion. It is formulated by Professor Bain as the 'Law of Self-Conservation' in the following words, which however might be more pointedly arranged: 'States of Pleasure are connected with an increase, states of Pain with an abatement, of vital functions.' (*The Theories of the Relation of Mind and Body*, p. 59.)

"The condition of increasing vitality is therefore increasing pleasure, and *vice versa;* and that this is true mentally and morally as well as physically is the assumed foundation of what is known as the Utilitarian theories of Ethics and Political Economy. The objections to these theories are in constant process of reduction, and doubtless will ere many years be wholly overcome; but, of course, we cannot stop even to glance at this immense discussion. Suffice it to say that modern physical science here reaches exactly the same point which psychical analysis, in the masterly hands of Spinoza, attained two hundred years ago, as any one can see by comparing the third part of his *Ethices* with this last book of Prof. Bain.

"The second fundamental law common to Thought and Material is akin to this first law of Self-Conservation. It is the law of Unity or Identity. Whatever is, exists as itself, and not as something else. In other words, it preserves its own identity. Plants and animals, whose constituent parts are undergoing ceaseless change, preserve the identity of Form, and, what is even more inexplicable, transmit this Form, so that each species 'brings forth after its kind.' So in Thought, one must think of anything as one thing, and not another. The nervous impression given by the color blue must always be recognized as the color blue, or all correct thought about it becomes impossible.

"The third great law is the law of Duality, otherwise called Relativity or Contrast. One thing can only exist as one by being different from some other thing. So it can only be a subject of thought when contrasted with some allied subject of thought. We recognize the blue because it differs from the red, etc."

Contemporary Philosophy.

In the "North American Review" for July, 1872, appeared a very noteworthy estimate of the Philosophical stand-point of "Henry Thomas Buckle, His Problem and his Metaphysics," from the pen of Dr. J. H. Stirling, well known to our readers. The article is in the same thorough style as that on "Professor Fraser's Berkeley," published in this journal January, 1873.

In *Scribner's Monthly* for Sept., 1872, appeared an interesting article on "Frederic Denison Maurice," from the pen of Dr. E. Mulford, the author of "The Nation," by far the ablest speculative work on the Philosophy of Rights in the English language. At the close of the article he draws a comparison between Maurice's Theological views and those of Hegel, and does Hegel's views the justice that they seldom get.

In the July number of the above-named Review for the same year is a very satisfactory article on "Arthur Schopenhauer and his Pessimistic Philosophy," by E. Gryzanovski.

In the October number, "Taine's Philosophy of Intelligence" received a thorough examination by James T. Bixby.

Professor Barzelotti of Florence, Italy, whose book on *The Moral in Positive Philosophy* we noticed April, 1872, is now engaged in the preparation of an extensive work upon the present condition of Philosophy.

BOOK NOTICES.

Memoir of Samuel Joseph May. Boston: Roberts Brothers, 1873.

If the chief value of biography is found to lie in the fact that it brings the reader into intimate society with great and good men, here is certainly a valuable biography. All who knew Mr. May will comprehend the sincerity of the words of President White of Cornell University: "Here lies before us all that was mortal of the best man, the most truly *christian* man, I have ever known; the purest, the sweetest; the fullest of faith, hope, and charity; the most like the Master."

The Logic of Accounts; a New Exposition of the Theory and Practice of Double Entry Book-keeping, based in value, as being of two primary classes, Commercial and Ideal; and reducing all their Exchanges to nine Equations and thirteen Results. By E. G. Folsom, A.M., Proprietor of the Bryant & Stratton College, Albany, N. Y. New York and Chicago: A. S. Barnes & Co., 1873.

Who can doubt that a philosophically trained mind, deeply versed in political economy, would teach the subject of book-keeping in such a way as to make it simple and clear, and exhaustive and comprehensive? If our merchants were all thoroughly trained in a school of political economy, and were initiated into the secrets of finance, there would not only be fewer failures among them, but there would be vast systems of commerce built up on a sound basis. Commerce is the centre and head of human industry; on it rests the division of labor and all possibility of prosperous manufacturing, agriculture, and mining.

Until reached by the arms of commerce a population is never more than half civilized and its labor not half utilized; its ideas move in narrow circles, for it cannot through the daily newspaper receive a cosmopolitan culture. The substitution of matter of world-interest for village gossip is as important a step toward genuine civilization as one can name.

Success to any teacher of Book-keeping who lifts his theme up on the pillars of broad generalization!

What Determines Molecular Motion?—The Fundamental Problem of Nature. By James Croll, of the Geological Survey of Scotland. (Reported from the Philosophical Magazine for July, 1872.) London: Taylor & Francis, 1872.

An able investigation into the phenomena of matter, motion, and force, which occupy so much of the attention of thoughtful men in our time. Its author is preparing for the press a new and revised edition of his "Philoso-

phy of Theism: the Determination of Molecular Motion considered in relation to Theism; with an Examination of Modern Theories of Molecular Evolution"— pronounced by English authority to be "one of the clearest and subtilest works on the metaphysics of theism ever written."

Bibliotheca Diabolica; being a choice selection of the most valuable books relating to the Devil, his origin, greatness, and influence; comprising the most important works on the Devil, Satan, Demons, Hell, Hell-torments, Magic, Witchcraft, Sorcery, Divination, Superstitions, Angels, Ghosts, &c. &c. With some curious volumes on Dreams and Astrology. In Two Parts—*pro* and *con*, serious and humorous. Chronologically arranged with Notes, Quotations and Proverbs, and a copious Index. Illustrated with twelve curious Designs. On sale by Scribner, Welford & Armstrong, 654 Broadway, New York.

This catalogue has been ably compiled and edited by Mr. Henry Kernot, and is the most complete and valuable one ever published, containing the names of upwards of five hundred works, on the subject. What adds most importance to the catalogue is the fact that all the books named are for sale by Scribner, Welford & Armstrong.

On Deaf-Mutism and the Method of Educating the Deaf and Dumb. By Lawrence Turnbull, M.D. Pamphlet, pp. 1 to 7. Reprint from Trans. Med. Soc. of Pa.

Catalogue No. 3 of Publications, importations and selections of a liberal and reform character, advocating free thought in Religion, and Political, Social and Natural Science. By Asa K. Butts & Co., 36 Dey street, New York.

The Philosophy of Evolution, together with a Preliminary Essay on the Metaphysical Basis of Science. Two Papers read before the Wisconsin Academy of Science, Arts, &c., by Stephen H. Carpenter, LL.D., Professor of Logic in Wisconsin University, and President of the Department of Speculative Philosophy in the Wisconsin Academy of Science.

Die Selbstzersetzung des Christenthums und die Religion der Zukunft. Von Eduard von Hartmann. Berlin, 1874. Carl Duncker's Verlag.

CONTENTS (translated): (1) Reconstruction or a New Structure? (2) The Historical Problem of Protestantism; (3) Christianity and Modern Culture; (4) Pauline and Johannean Christianity; (5) The Christianity of Christ; (6) The unchristian Attitude of Liberal Protestantism—(7) Its Irreligiousness; (8) The Necessity and Possibility of a new World-Religion; (9) The Historical Corner-stone of the Religion of the Future.

We have here the theological views of the author of the *Philosophy of the Unconscious*, whose work on that subject has run through six editions within five years. His closing paragraph is as follows:

"It therefore appears, from the present attitude of science, to be the most probable event, that the Religion of the Future will be a Pantheism, or, more definitely, a Pantheistic Monism (with an exclusion of every tendency to Polytheism)—or, in other words, an impersonal, immanent Monotheism, of whose deity the world is an objective manifestation—not without him, but within him. This, however, is not accomplished either by the Positive Christianity with its triune polytheism, or by the Liberal Protestantism with its abstract, personal theism; historically, the result sought for will be attained only through the synthesis of the East Indian and Jewish-Christian evolutions of religion into one structure which shall unite in itself the chief characteristics of both tendencies (with elimination of defects), and thereby find the means to complement both and become a World-Religion in the true sense of the word. Such a Panmonotheism would harmonize most perfectly with reason and at the same time arouse and satisfy completely the religious nature, and likewise furnish a metaphysics that would afford the strongest support to ethics, and therefore would come the nearest to being what people seek under the name of "truth" in Religion."